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ABSTRACT

This report describes the project, "Teaching Research Ethics: A Workshop at Indiana University," an annual, intensive workshop designed to help university research scientists integrate the teaching of the responsible conduct of research into their curricula. The project worked closely with the Committee on Institutional Cooperation, an alliance of major midwestern research universities. Over 3 years almost 90 faculty members received intensive training in ethical theory, substantive issues in research ethics, and pedagogical techniques for teaching the responsible conduct of research. Project evaluation included pre- and post-workshop participant surveys in the first year; detailed workshop evaluations by participants every year; a report by an external evaluator annually, and sessions on assessment of student learning at each workshop. The project produced an annotated bibliography that was made available on the World Wide Web and a newsletter entitled "Trends" for workshop participants. Additional products included "Case Builder," a HyperCard stack designed to make it easy to test and modify interactive case studies and a booklet of materials, "Moral Reasoning in Scientific Research: Cases for Teaching and Assessment," for teaching and assessing moral reasoning. Appendices include the 1997 workshop evaluation, 1997 external evaluator's report, and the results of a poll on "Moral Reasoning in Scientific Research." (JLS)

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Teaching Research Ethics
A Workshop at Indiana University

ED 413 834

Grantee Organization:
Indiana University
Poynter Center for the Study of Ethics and American Institutions
410 North Park Avenue
Bloomington IN 47405

Grant Number:
P116B30744

Project Dates:
Starting Date: September 1, 1993
Ending Date: August 31, 1996
Number of Months: 36

Project Director:
Kenneth D. Pimple, Ph.D.
Research Associate
Poynter Center for the Study of Ethics and American Institutions
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FIPSE Program Officer:
Cari Forman

Grant Award:
Year 1: $78,029
Year 2: $80,040
Year 3: $81,524
TOTAL: $239,593

HE 030 739

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Project Summary

"Teaching Research Ethics: A Workshop at Indiana University" (TRE) was an annual, intensive workshop designed to help scientists at research universities integrate the teaching of the responsible conduct of research into their curricula. Attendance at the workshop was limited to 30 participants per year. Products include *Trends*, an informal newsletter; *Moral Reasoning in Scientific Research*, a 100-page booklet; an e-mail based electronic conference; a World Wide Web site (www.indiana.edu/~poynter/tre.html); and an annotated bibliography of almost 500 items (available via the Web). The TRE project director is Kenneth D. Pimple, Poynter Center, Indiana University, Bloomington IN 47405; (812) 855-0261; pimple@indiana.edu.

Executive Summary

Project Title:

Teaching Research Ethics: A Workshop at Indiana University

Grantee Organization:

Indiana University
Poynter Center for the Study of Ethics and American Institutions
410 North Park Avenue
Bloomington IN 47405

Project Director:

Kenneth D. Pimple, Ph.D.
Research Associate
Poynter Center for the Study of Ethics and American Institutions
Indiana University
410 North Park Avenue
Bloomington IN 47405
(812) 855-0261

A. Project Overview

This project had its genesis in a growing appreciation of a pressing need for explicit training in research ethics for scientists and a growing consensus that mentoring and modelling ethical behavior are no longer sufficient. Many science faculty are eager to include research ethics in their curricula, but their training is in science, not in teaching ethics. The "Teaching Research Ethics" Workshop (TRE) was established to provide the necessary training.

We worked closely with the Committee on Institutional Cooperation (CIC), an alliance of major research universities in the Midwest. Over the project's three years, almost ninety faculty members received intensive training in ethical theory, substantive issues in research ethics, and pedagogical techniques for teaching the responsible conduct of research. All participants expressed enthusiasm for the workshop and its effect on their teaching and their universities. We have seen substantial changes in how the CIC universities teach science, and these changes are expected to continue. The greatest tribute to our success is the fact that the CIC and ten of its member universities have pledged financial support to enable us to continue offering the workshop after funding from FIPSE has ceased.

B. Purpose

Our project is designed to help scientists who want to (or have to) teach research ethics to do so in the most effective manner for their particular situation. We also hoped to have a critical influence on a few major research universities. We appear to have succeeded in this goal.

Workshop participants in the second and third year almost universally credited their interest in the workshop to the reports from their colleagues who attended in Year One. Projects for teaching research ethics in the CIC universities are diverse and expanding, and almost all such efforts are led by alumni/ae of our workshop.

C. Background and Origins

Two earlier Poynter Center projects laid the groundwork for TRE.

I. Ethics and the Educated Person The "Ethics and the Educated Person" project (EEP) began in 1989 with a major grant from the Lilly Endowment. Annually for six years, seven universities and colleges sent teams of three faculty members to Bloomington for a week-long summer workshop on teaching ethics and incorporating ethics into the curriculum. By the end of the sixth year, 42 institutions (all but three in Indiana) had sent 126 faculty members to the workshop.

II. Catalyst Also in 1989, FIPSE awarded the Poynter Center a three-year grant to fund "Catalyst," a project that explored ethical issues in the conduct of research. The project's core was a seminar of faculty members and graduate students from IU's biology, history, and psychology departments. The group produced and disseminated a series of case studies that address issues such as the morality of deception, use of unethically acquired data and regulation of research abuses. The materials developed were published in 1995 by Indiana University Press as *Research Ethics: Cases and Materials*, edited by Robin Levin Penslar, the Catalyst project director.

To a significant degree, TRE is a hybrid of EEP and Catalyst. It built on the experience we gained through EEP in offering interdisciplinary, multi-campus workshops in teaching ethics as well as the solid grounding and contacts Catalyst provided in research ethics.

D. Project Descriptions

The workshop has always been true to its title. All of the workshop sessions have been about teaching or ethics, and many have been about both. For example, we had sessions on pedagogical techniques such as using case studies, short writing assignments, and video, all of which took examples from research ethics. Approaching the topic from another direction, we had sessions on ethical theory, using human and animal subjects in research, and the like, most of which also had something to say about teaching.

In order to provide resources for teaching research ethics, we compiled an extensive annotated bibliography (currently containing nearly 500 items), which we distributed on disk at the workshop and made available via the World Wide Web. To facilitate networking and on-going contact with participants, we established an e-mail based electronic conference (POYNTER_TRE) and we publish an informal newsletter, *Trends*. Other products are described in Section E.

In respect to both content and format, we kept the lessons we learned from EEP and Catalyst in mind as we designed the TRE workshop.

E. Evaluation/Project Results

Our efforts to evaluate the TRE project have included a pre- and post-workshop survey of participants in Year One; detailed workshop evaluations by participants every year; a report by an external evaluator every year; and sessions on assessment of student learning at each workshop.

In addition to the annotated bibliography and newsletter mentioned above, the project resulted in two major products.

I. Case Builder "Case Builder" is a HyperCard 2.2 stack designed to make it easy to develop, test, and modify interactive case studies, especially in ethics. We distributed Case Builder at the workshop and made it available on the Internet. It has been distributed freely and demonstrated on numerous occasions. A great deal of interest has been expressed about Case Builder, but we have not had any detailed assessments of its usefulness.

II. Moral Reasoning in Scientific Research A major undertaking outside the workshop has been the production and distribution of *Moral Reasoning in Scientific Research: Cases for Teaching and Assessment*, a unique 100-page booklet of materials for teaching the responsible conduct of science. The booklet focuses on teaching and assessing moral reasoning, an essential component in ethical decision making. We demonstrated and distributed the booklet at each workshop, and we have made the booklet available to educators at cost.

At this writing we have distributed almost 500 copies of the booklet. In preparation for this final report, we polled the persons who had received a copy. The results show that the booklet has been very favorably received and is proving to be a valuable tool for teaching and assessment in research ethics.

F. Summary and Conclusions

TRE was developed to help scientists address a rising concern about the responsible conduct of science in the United States. Although this project is only one part of a world-wide effort to increase attention to ethical issues in scientific research, it has had a significant impact on fourteen major research universities in the Midwest. We have already seen a ripple effect in the CIC universities as faculty members who did not attend the workshop become involved in teaching research ethics largely in response to the enthusiasm and leadership of TRE workshop participants. With the continued financial support already pledged by the CIC and ten of the CIC universities, TRE promises to continue having an impact for years to come.

G. Appendices

1997 Workshop Evaluation

1997 External Evaluator's Report

Results of Poll on *Moral Reasoning in Scientific Research*

Final Report

Teaching Research Ethics: A Workshop at Indiana University

A. Project Overview

This project had its genesis in a growing appreciation in the United States and other nations of a pressing need for explicit training in research ethics for scientists and a growing consensus that mentoring and modelling ethical behavior are no longer sufficient. Several federal agencies, including the National Institutes of Health (NIH), have imposed requirements for training in the responsible conduct of research as part of their National Research Service Awards training grants. Many science faculty are eager to include research ethics in their curricula, but their training is in science, not in teaching ethics. The "Teaching Research Ethics" Workshop (TRE) was established to provide the necessary training.

We worked closely with the Committee on Institutional Cooperation (CIC), an alliance of major research universities in the Midwest. The members of the CIC are

- Indiana University-Bloomington
- Indiana University/Purdue University-Indianapolis
- Michigan State University
- Northwestern University
- The Ohio State University
- The Pennsylvania State University
- Purdue University
- University of Chicago
- University of Illinois-Chicago

- University of Illinois-Urbana/Champaign
- University of Iowa
- University of Michigan
- University of Minnesota
- University of Wisconsin-Madison

An administrator from each of the CIC universities (usually the Vice President for Research or the Research Integrity Officer) was invited to nominate one to four faculty members to participate in the workshop in each of the three years we had funding from FIPSE. We accepted 30 nominees each year, but only 27 or 28 actually participated due to last minute cancellations. Every university in the CIC sent at least one participant, with the university covering the cost of faculty travel and lodging.

Over the project's three years, almost ninety faculty members received intensive training in ethical theory, substantive issues in research ethics, and pedagogical techniques for teaching the responsible conduct of research. All participants expressed enthusiasm for the workshop and its effect on their teaching and their universities. We have seen substantial changes in how the CIC universities teach science, and these changes are expected to continue.

The greatest tribute to our success is the fact that the CIC and ten of its member universities[1] have pledged financial support to enable us to continue offering the workshop after funding from FIPSE has ceased.

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[1] Sponsoring universities: Indiana University, Michigan State University, Northwestern University, The Ohio State University, Purdue University, University of Illinois-Urbana/Champaign, University of Iowa, University of Michigan, University of Minnesota, and University of Wisconsin-Madison.

B. Purpose

Our project is designed to help scientists who want to (or have to) teach research ethics to do so in the most effective manner for their particular situation. Our workshop provides basic training in ethical theory, substantive issues in research ethics (e.g., ethical issues involving research on human or animal subjects), and pedagogy (e.g., using case studies to teach the responsible conduct of science). We do not pretend that the scientists' training in teaching research ethics is complete when they complete our workshop, but we do give them a good start by providing them with a foundation of knowledge, resources, and tools and by connecting them to a network of other scientists who teach the responsible conduct of science.

We also hoped to have a critical influence on a few major research universities. We appear to have succeeded in this goal. Workshop participants in the second and third year almost universally credited their interest in the workshop to the reports from their colleagues who attended in Year One. Projects for teaching research ethics in the CIC universities are diverse and expanding, and almost all such efforts are led by alumni/ae of our workshop. For example, in 1995, the University of Michigan instituted a program called the Research Responsibility Curriculum, a series of six sessions (each presented twice) open to the entire university. Every one of the eight coordinators has been associated with TRE, either as a workshop participant or presenter. As another example, Fred Gifford, a 1994 workshop participant from Michigan State University, arranged to have the Iowa State University Model Bioethics Program in Ethics and Environmental, Food, and Agricultural Biotechnology held at MSU in 1996. The Iowa State program is a major and ongoing effort.

C. Background and Origins

Two earlier Poynter Center projects laid the groundwork for TRE: "Ethics and the Educated Person" and "Catalyst."

I. Ethics and the Educated Person

The "Ethics and the Educated Person" project (EEP) began in 1989 with a major grant from the Lilly Endowment. Annually for six years, seven universities and colleges sent teams of three faculty members to Bloomington for a week-long summer workshop on teaching ethics and incorporating ethics into the curriculum. By the end of the sixth year, 42 institutions (all but three in Indiana) had sent 126 faculty members to the workshop.

After the summer workshop, the teams returned to their own campuses to work on a proposal for improving or expanding the teaching of ethics. The cohort met again in the fall on a campus of one of the participating institutions for a one-day meeting to critique each others' proposals. By the end of the calendar year, they sent proposals to the Lilly Endowment, which had made a commitment to provide up to $10,000 in implementation funds for worthy projects. All 42 institutions submitted proposals; all but one were funded.

Early the following spring, a second one-day follow-up meeting was held, to which participants in earlier workshops were also invited. This provided an opportunity for members of different cohorts to meet each other and learn from each other.

David H. Smith, Director of the Poynter Center, led the EEP project, and for its first four years Kenneth D. Pimple (TRE director) oversaw the logistics of organizing and executing the workshop.

II. Catalyst

Also in 1989, FIPSE awarded the Poynter Center a three-year grant to fund "Catalyst," a project that explored ethical issues in the conduct of research. The project's core was a seminar of faculty members and graduate students from IU's biology, history, and psychology departments. The group produced and disseminated a series of case studies that address issues such as the morality of deception, use of unethically acquired data and regulation of research abuses. The materials developed were published in 1995 by Indiana University Press as *Research Ethics: Cases and Materials*, edited by Robin Levin Penslar, the Catalyst project director.

To a significant degree, TRE is a hybrid of EEP and Catalyst. It built on the experience we gained through EEP in offering interdisciplinary, multi-campus workshops in teaching ethics as well as the solid grounding and contacts Catalyst provided in research ethics.

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In order to provide resources for teaching research ethics, we compiled an extensive annotated bibliography (currently containing nearly 500 items), which we distributed on disk at the workshop and made available via the World Wide Web. To facilitate networking and on-going contact with participants, we established an e-mail based electronic conference (POYNTER_TRE) and we publish an informal newsletter, *Trends*. Other products are described in Section E.

In respect to both content and format, we kept the lessons we learned from EEP and Catalyst in mind as we designed the TRE workshop. Important features of all three projects include:

- Bringing together an interdisciplinary group of faculty members.
- Maintaining contact with participants over a long period of time. Catalyst participants met monthly (or more frequently) over a three-year period. EEP participants, as noted above, met for spring and fall follow-up meetings. In TRE, we maintain contact through our newsletter and electronic conference; in addition, the last day of the TRE workshop features a session that TRE alumi/ae (and others) are invited to attend.
- Inviting excellent presenters from a variety of disciplines and a number of universities and colleges.
- Seeking strong institutional support and involvement from the participants' departments and deans.
- Discussing both substantive ethical issues and pedagogical concerns.

E. Evaluation/Project Results

Our efforts to evaluate the TRE project have taken a number of forms.

-In the first year of the workshop, we conducted a pre- and post-workshop survey of participants to try to determine the impact of the workshop. The results, which were sent to FIPSE with our annual report, were not particularly illuminating, nor statistically significant; we determined not to pursue that strategy in the second and third years.

Workshop participants completed a detailed evaluation at the end of each workshop; the results from Years One and Two were sent to FIPSE with our annual reports, and the result from Year Three is included as an appendix to this report. In all cases, the evaluations indicated that most participants found the workshop extremely helpful. Whenever possible, we have incorporated suggestions for improvements to the workshop.

We also hired an external evaluator each year, and once again in Years One and Two the external evaluator's resport was sent to FIPSE with our annual report. This year's report from our external evaluator is included as an appendix to this report. As with the workshop evaluations from participants, the reports of our external evaluators were overwhelmingly positive, with a few minor suggestions for improvements in, or refinements to, the workshop.

In an effort to learn about the impact of our workshop on students, we dedicated two sessions in each workshop to questions of assessing student learning. We asked all workshop participants to send us evidence that the workshop had affected their teaching, such as syllabi, fliers for lectures, and the like. All such materials we have received have been sent to FIPSE. We have not had complete compliance with this request, but the materials we have received are invariably accompanied by a cover letter indicating that participant had found the workshop extremely valuable, and the materials themselves testify that the workshop has had an impact. We know from informal channels and from the 1996-97 external evaluation that many participants who have not sent materials to us appreciate and are building on their experience in the workshop.

In addition, each year a small group of participants volunteered to take part in an Intensive

Assessment Cohort (IAC). The members of the IAC attended two additional sessions on assessment at the workshop and received a small stipend for their activities in the IAC ($200 after they attended the workshop, $200 after submitting an assessment plan, and $200 after submitting a report on their assessment). Not all members of the IAC have submitted materials, but the materials that were submitted have been sent to FIPSE. In spite of the challenges associated with assessing instruction in ethics, the IAC materials show that the workshop is having an impact on students.

All of our communications with past workshop participants have attested to the workshop's positive effect. Several of the CIC universities are developing extensive programs in teaching research ethics, and a good part of the impetus for these programs can be attributed to our workshop. As mentioned above, ten of the CIC universities have found the workshop valuable enough to pledge financial support for its continuation.

In addition to the annotated bibliography and newsletter mentioned above, the project resulted in two major products.

I. Case Builder

We began thinking about ways to develop intereactive case studies during the Catalyst project, an undertaking that bore fruit in TRE. "Case Builder" is a HyperCard 2.2 stack designed to make it easy to develop, test, and modify interactive case studies, especially in ethics. (Case Builder will run only on Macintosh computers.) We distributed Case Builder at the workshop and made it available on the Internet. We also distributed three sample cases:

- "Anonymous Letter," a complex case study in research ethics, focusing on a historian who may have fabricated data .

- "Helpful Hints," very simple examples of two different models of interactive case studies, some ethical considerations to bear in mind when creating case studies, and instructions on using Case Builder.
- "Mary Anderson," a relatively simple case study on collegial interaction.

Case Builder has been distributed freely and demonstrated on numerous occasions, including all three TRE workshops, the FIPSE project directors' meeting in 1995, a meeting of the Ethics and the Educated Person cohort in 1995, and the national meeting of Public Responsibility in Medicine and Research (PRIM&R) in 1996. A great deal of interest has been expressed about Case Builder, but we have not had any detailed assessments of its usefulness.

II. Moral Reasoning in Scientific Research

A major undertaking outside the workshop has been the production and distribution of *Moral Reasoning in Scientific Research: Cases for Teaching and Assessment*, a unique 100-page booklet of materials for teaching the responsible conduct of science. The booklet focuses on teaching and assessing moral reasoning, an essential component in ethical decision making. Included are:

- an introduction to our approach;
- instructions on using the materials;
- an essay for students on "Developing a Well-Reasoned Response to a Moral Problem in Scientific Research;" and
- six short (one- to two-page) case studies in research ethics.

Each case study presents a problem in research ethics and is accompanied by a set of "Notes for Discussion and Assessment." The "Notes" provide extensive discussion of the implicit ethical issues and points of conflict, interested parties, consequences, and moral obligations, and include a checklist for evaluating students' responses to the case. Issues covered include data ownership, plagiarism, whistle blowing, data selection/exclusion, collegial relations, and animal use. We demonstrated and distributed the booklet at each workshop, and we have made the booklet available to educators at cost.

At this writing we have distributed almost 500 copies of the booklet. In preparation for this final report, we polled the persons who had received a copy. The results (which can be found in an appendix to this report) show that the booklet has been very favorably received and is proving to be a valuable tool for teaching and assessment in research ethics.

F. Summary and Conclusions

TRE was developed to help scientists address a rising concern about the responsible conduct of science in the United States. Although this project is only one part of a world-wide effort to increase attention to ethical issues in scientific research, it has had a significant impact on fourteen major research universities in the Midwest. We have already seen a ripple effect in the CIC universities as faculty members who did not attend the workshop become involved in teaching research ethics largely in response to the enthusiasm and leadership of TRE workshop participants. With the continued financial support already pledged by the CIC and ten of the CIC universities, TRE promises to continue having an impact for years to come.

G. Appendices

1997 Workshop Evaluation

1997 External Evaluator's Report

Results of Poll on *Moral Reasoning in Scientific Research*

Appendix

1997 Workshop Evaluation

Teaching Research Ethics
A Workshop at Indiana University
June 23-28, 1996

Evaluation Results

Please rate each of the following components of the workshop on a scale of 1 to 5 where 1 = lowest, worst, least useful to 5 = highest, best, most useful (circle 0 for not applicable, did not attend, don't know).

Part One: Workshop Sessions

Teaching Ethics in the University (David H. Smith)
N=14, Min = 2, Max = 5, Avg = 3.86
Readings: "General Issues in Teaching Research Ethics."

[4] Very useful in providing context for the week. A nice beginning.

[5] Good overview-teaching style a delight.

[2] Since I have had formal training in philosophy and modern ethics (Rawls, A.K. Sen), etc., I may have a different view.

[0] Didn't arrive in time.

[3] Reasonable overview, maybe too "general." I would have liked a chance for participants to discuss their views of what the major issues are.

[0] Didn't attend. Arrived late so I only heard the last five minutes of the talk.

[5] I enjoy having a grasp of underlying theory/concepts.

[0] Wasn't abale to attend this session.

[4] The question of why teach ethics and the discussion about that was important to me. Given the time and semester-hour limits of most degree programs, a substantial rationale for inclusion of ethics education is important. Many disciplines have also experienced an emphasis on concrete,,job-related skill education as opposed to philosophical, ethical, and historical consideration.

[5] Very good introduction and provided solid rationale for including ethics in graduate studies.

[3] Nice job of setting stage. Wish more theory material could have been included in the workshop.

[3] OK; reviews general introductory materials and sets the stage for what, presumably, will follow.

[3] Very good content--stuffily presented.

[] I missed this due to late airplane.

[5] Nicely laid out. Good summary for someone like me with no prior formal training in ethics.

Using Short Writing Assignments in Teaching Research Ethics (Kenneth D. Pimple)

N = 18, Min = 1, Max = 5, Avg = 3.61

Reading: "Using Short Writing Assignments in Teaching Research Ethics."

[3] I very much appreciated the tips shared by Dr. Pimple. However, I think all the sessions on teaching would be strengthened by referring to the research on teaching. There is much research on when small groups seem to be most effective and what strategies increase the effectiveness, etc. Especially at a workshop on research its inappropriate to ignore this research.

[2] Really just restated the reading--did it nicely.

[5] "Assignments" a novel and useful tool -- will probably use the appraoch myself in my teaching.

[4] I have been teaching so long I am not very open to advice, but I found this much more helpful than most.

[3] A nice start to a brainstorming; relevance to ethics unclear.

[2] Nothing really wrong with the presentation, but I've used these things and there was little specific to teaching research ethics.

[4] Good ideas.

[5] Very useful introduction to useful teaching tools. Ideas very useful; however, the reading was quite clear, so the lecture seemed to add little beyond the reading assignment.

[4] Presented lots of new ideas for me.

[4] Valuable information--some redundant to other experiences I have had.

[4] As someone who spends most of my time teaching undergraduates in very large lecture sections, or grad students in labs, I found all of Ken's ideas new and fascinating.

[1] Not enough time to develop his rationale.

[3] OK; shows basics, but don't most of us already do this?

[4] Helpful--slightly shallow but would take more time to improve this. Enthusiastically and clearly presented. Should be tied more directly to ethics goals/outcomes.

[3] Brief, to the point, and very helpful ideas.

[5] This was a good example. Describing your best teacher was not easy for me (I don't feel one

teacher stands out). Perhaps the qualities of the best teachers would work better.

[4] Nice complement to reading assignment.

Using Case Studies in Teaching Research Ethics (Karen M.T. Muskavitch)

N = 19, Min = 3, Max = 5, Avg = 4.21

Reading: Cases from Research Ethics: Cases and Materials, ed. Robin Levin Penslar.

[4] I would make the same comments about this session as the one before it. If you are going to talk about using a case study approach--in addition to sharing your personal experience or those of this group--refer to the research in the area.

[5] Very well done--modeled well.

[4] Nice development of case studies.

[4] Very helpful.

[5] Wonderful demonstration of the technique, wrapped between introduction and discussion of what was happening. Exhilarating.

[5] An excellent presentation. The class, coupled with the readings done before the workshop really changed my mind about the use of case studies. I now see case studies as a very useful tool to engage studies in thinking about and discussing ethical aspects of science.

[5] Very useful to see the method in action.

[4] Did a very good job of involving us in the discusison.

[4] I would have preferred more emphasis on the interface between student educational levels and characteristics with the selection of case studies and our presentation of the case study.

[4] Very good interactive approach to using case studies. The participatory experience was quite valuable in understanding how to make this work.

[3] It's a basic thing we do so, hopefully, no one found this session a surprise.

[4] Well presented--content somewhat muddy.

[5] Excellent discussion leader.

[4] A nice "learn by doing" example of ethics teaching.

An Overview of Ethical Theory (Smith)

N = 19, Min = 2, Max = 5, Avg = 4.16

Reading: "An Introduction to Ethical Theory"

[4] Good consent overall though personal biases influenced presentation just a tad. Enjoyed the overview. It takes a rich knowledge base to be abale to clarify so much in so little time--good organization and flow.

[5] A marvelous quickly overview--even if you know the material, a good model for teaching and introducing it to others.

[2] This is again when I have more knowledge. E.g., A.K. Sen is a great consequentialist (as are all scientists I think) who is VERY hostile to utilitarism (see his STANDARD OF LIVING).

[4] Very clear/fine voice/example (Baby Doe) was too eccentric to help the lecture.

[4] Ok, but either too philosophical or not philosophical enough.

[5] Very interesting. Reviewed some ideas that were presented in an ethics course I took 25 years ago, but many new connections and ideas were presented. The intertwining of ethics and science was very interesting and helpful.

[4] Interesting, but largely a repetition of the reading.

[5] I found myself composing the theoretical positions presented in the research context with the use of similar theoretical positions used in discussion of coaching ethics and codes of ethics for sport organizations. The "relational" theory was consistent with a "generalional" concern in defining responsibilities of persons with different power levels (e.g., adult-child, boss-employee, coach-athlete).

[5] Outstanding. This was my first exposure to such issues and David did an excellent job introducing them in a logical, understandable manner.

[3] And then the rest of the workshop was casuistic.

[2] Too vast a topic to be covered in the time available. Formidable challlenge that Smith met well.

[5] A big improvement in presentation style. Vital content clearly presented.

[4] Level and depth of prersentation was just right! Pedagogically useful and practical discussion of ethical theory.

[5] Good congruence between talk and reading and examples. Nice style.

[5] Very methodical--good summary.

Video: "The Burden of Knowledge: Moral Dilemmas in Prenatal Testing"

N = 8, Min = 3, Max = 5, Avg = 4.38

[5] Excellent "case study" and documentary well done. Interview without being repetitive--good ediitng, good teaching tool.

[] N/A

[5] Almost unbearably moving.

[0] Didn't attend.

[0] Didn't attend.

[4] I'm glad I watched the tape. I agree with Elliott that "real life" examples are highly effective. I wish there had been some discussion of the tape.

[4] Nice source.

[4] Great example for effective use of video in teaching ethics. Lunch hour may not have been the best time for this gut-wrenching topic--I lost my appetite!

[5] Actually brought tears to my eyes! I would be interested in viewing Elliott's other work.

Using Video in the Teaching of Ethics (Deni Elliott)

N = 16, Min = 2, Max = 5, Avg = 3.68

[4] Led to lively discussion--well led.

[5] Pleasant style -- developed discussion well.

[5] She really convinced me not to use them.

[5] Good demonstration, again, well-bracketed by pedagogical guidance.

[3] The list of videos seemed worthwhile.

[3] Useful to explain pros and cons of video use. But not terribly informative -- seemed to repeat much of the previous session on using case studies, but we viewed rather than read the case.

[4] I had some trouble relating to the content of the video, having never dealt with contractual relationships with industry reps. I did appreciate the emphasis on pedagogical techniques associated with the use of video.

[3] Ok. Deni's ideas on teaching ethics were probably more useful to me than the actual video part.

[4] Valuable perspective for me. I've yet to use videos in teaching ethics.

[3] Needed more specifics.

[3] Interesting and informative. Thanks for the list of available video materials and summary of their contents.

[4] Good ideas, appreciated the distinguishing of types of videos.

[5] Definitely one of the best sessions.

[2] I didn't get much out of this, and came away with a rather negative impression of what videos can do.

Assessing Student Learning in Ethics, Part I (Muriel Bebeau)

N = 19, Min = 1, Max = 5, Avg = 3.18

Readings: "An Overview of the Psychology of Morality" and "Influencing the Moral Dimensions of Dental Practice."

[4] Well done.

[2] Good attempt, but not particularly useful -- too detailed for anyone other than ed psych.

[2] Main impression: dogmatic, narrow my point of view. Did not touch on either of two main issues: 1. to what extent science is a "profession" or a "practice" vs. a community. 2. what assessemnt has to do with practical wisdom among students; among administrators.

[3] Not very good as psychology, and not really focused on applicaton.

[1] Psycho-babble, largely.

[3] Interesting for background.

[4] I appreciated the presentation of a comprehensive curriculum. The theoretical positions (historical review) was difficult to follow because I wasn't familiar with all of the theories.

[4] Great. Again, hands on experience is better than just listening.

[4] Nicely handled. Good use of audience.

[3+] OK but I expected the presentation to overlap with the readings more. No big deal that it didn't. I enjoyed Mickey's sessions.

[2] What waas this about?

[2] This presentation was a little too "academically distant" and I did not get as much from it as I had hoped. It is not helpful to provide a historical perspective (i.e., developments from 1950s to present) without providing a brief discussion of the theories (Piaget's, Kohlberg's,

etc)--many in the auadience are not familiar with them. I would have appreciated a more detailed discusison of the four-component model with examples and comparison/contrast. Note added in proof: this was nicely covered in a later session--thanks!

[5] A good example of theory application and parsimony. Brilliant work!

[3] Presentation was uneven. Point of lecture not clearly made.

[3] The history of moral psychology was great. I always like historical context. The rest sounded like a presentation suited for a scientific meeting--little more than tables and stats boosting the speaker's research.

Using Small Group Assignments in Teaching Research Ethics (Pimple)

N = 19, Min = 2, Max = 5, Avg = 3.63

Reading: "Using Small Group Assignments in Teaching Research Ethics."

[4] Useful.

[4] Some new approaches would have liked a demonstration of "fish bowl" and other techniques.

[3] In social work, we use them ALL the time.

[3] As before: a useful teaching tool, but relevance to ethics per se is unclear.

[4] A number of techniques were presented that seem to be potentially very effective.

[2] Not terribly informative beyond the assigned reading.

[4] Good practical advice.

[4] See previous comments.

[5] Same comments as yesterday. I just liked it better.

[3] Good practical ideas.

[4] Appreciate the honesty of presentor. Demonstration of fish bowl would have been nice if time allowed.

[4] I got a few useful pointers out of this.

Developing and Choosing Case Studies for Teaching Research Ethics (Muskavitch)

N = 17, Min = 3, Max = 5, Avg = 4.35

Readings: "Misconduct in Science," case from Research Ethics: Cases and Materials, ed.; "Some Pointers on Using and Writing Case Studies" and "Late One Night" case.

[5] I get so many ideas from Dr. Muskavitch and her style is grand.

[5] Good way to teach [?] case study.

[4] I think cases must be the heart of how we teach research ethics; very helpful.

[5] Great. Excellent overview materials ingratiating manner.

[5] Very good discussions were generated during the session.

[3] Points were fairly obvious.

[5] Superb presentation. Suggestions were very practical. I feel that I am ready to go home and implement these ideas--a credit to Karen's presentation.

[5] Good facilitator of the group. Gave some good hints on teaching.

[4] Good presentation. Better content than yesterday.

[4] Very practical.

Institutional Issues in Investigating Fraud and Misconduct (C. K. Gunsalus)

N = 17, Min = 3, Max = 5, Avg = 4.53

Readings: "Institutional Structure to Ensure Research Integrity," "Misconduct: Views from the Trenches," letter to William Raub, and Integrity and Misconduct in Research report.

[4] Good data--She talks so rapidly she is difficult to track. Would be helpful if she provided her slides in a handout--then you could just concentrate on listening and she has much to say. Useful.

[5] Excellent presentation -- wish had more time for discussion.

[5] She was VERY well prepared; very clear; very important material.

[4] So powerful and entertaining that it ended up rendering me a little skeptical. In general, True Believers are not ideal as lecturers here.

[5] Although the perspective was very administrative, I found this presentation very useful.

[5] Great presentation and interesting perspectives.

[4] Quite informatiave. Should be heard by all faculty--but too much info.

[5] Well prepared, provocative talk. The content reminds me somewhat of the NCAA concept of "institutional control." There are similar concerns about "policing your own."

[5] I heard several people say they didn't like this one, but I did. A very straight-forward view from "administration."

[5] Too fast. Would have liked more discussion of policies at different institutions.

[3] Important topic, good speaker, extreme viewpoint.

[4] Very interesting and informative. I appreciated the distinction between minimum standarads (FFP) and desirable professional standards.

[5] What a terrific speaker, excellent use of real life examples. I appreciate her "mission" knowing full well I couldn't convince a soul at my campus. Though, I may recommend her as a consultant.

[5] Packed with interesting info--an engaging talk.

Assessing Student Learning in Ethics, Part II (Bebeau)

N = 18, Min = 1, Max = 5, Avg = 3.61

Readings: The Jessica Banks case and "Developing a Well-Reasoned Response to a Moral Problem in Scientific Research Ethics."

[5] Excellent session--She leads a group well--got some new ideas--love her reasoning ability.

[2] Extracting more 'data' from case than is useful for general ethics teaching -- again great to spend class only on ed psych. Case should be rewritten to be useful.

[3] I think it would be much better to assign it the nite before (not three weeks earlier) and have her TEACH us rather than DEMO. She'd need more sessions.

[3] Again rather dogmatic-- a very extensively organized method, quite directive; in my view, without sufficient justification (i.e., why should I do it this way?). I do, however, very much resent the intentional misleading in the assigned case. I feel I was led to waste my time spent in preparation. Talked over this extensively with Karen later.

[5] This should be expanded. Perhaps drop the sessions that simply repeat the reading assignments. It would have been good to spend more time practicing assessments and evaluating as a group, sample assessments.

[2] I have used Bebeau's materials in a graduate course that I teach on previous occasions, and found the approach and materials very useful. The exact nature of the assignment was unclear to me. I didn't find the session very helpful in helping me learn more about teaching these

concepts--the discussion got off on tangents. A new case without an answer key might work better.

[4] See previous comments.

[4] Good practice about doing analyses, however assumes students can come to appropriate reasoning about multiple topics such as competency, personhood, confidentiality. Is very [?]

[3] I got more from the book. I'm still not clear how to tell students what is expected or why I should have a detailed grading scheme for it.

[4] Very informative discussion/demonstration of leading a discussion of case history, eliciting and formalizing responses, and evaluating students written feedback.

[5] Excellent content, speaker too polite to "control" discussion. Again excellent thought behind this work.

[4] Good as a practical example of how to lead an ethics discussion.

Teaching Ethics as a Survival Skill (Beth Fischer)

N = 18, Min = 1, Max = 5, Avg = 3.53

[3] I loved heariang about the work being done at Pittsburgh. But these are many programs in universities aimed at graduate students and new faculty members in the topic areas Fischer addressed. I think that an overview of these programs--as well as Pittsburghs--would provide a better background for participants planning such efforts.

[4] Just a little difficult to hear her. She has a very gentle voice.

[3] A tad place specific, but interesting.

[5] VERY well organized. I think mixing ethics with survival skills is a GREAT idea too.

[4] Very nice early version of a talk reporting on a social experiment. Would have benefitted from some views or handouts of typical course materials. I learned later that Beth is only a graduate studnet; presentation should have been by Zigmond instead.

[5] Very nice overview of what appears to be a very effective program--helpful in putting ethics in broader context.

[3+] Presentation tended to drag a bit, but the material was very interesting. Combining ethics, writing skills, etc. seems like a very good idea.

[3] Interesting model, but not of much specific use.

[4] Clear example of a university program. Handouts would be helpful. The question and answer session was particularly helpful.

[2] Beth's presentation was very good; however, this would have been more appropriate for a short Friday am talk. Would have rated a "4" then.

[4] Nice to know how others are getting students into this material.

[3] Interesting concept, I would have appreciated an outline of the content of survival courses.

[4] Good speaker, good ideas. I worry about the "ethics or equality" committee having the sole untenured woman in the department serving -- will she get additional time to tenure for this duty?

[1] Came off as stilted cheerleading. I lost interest after ten minutes.

Our Favorite Teaching Techniques (Pimple)

N = 17, Min = 2, Max = 5, Avg = 3.35

[4] Got a couple of good ideas. Thanks. Good session.

[5] Fun -- more examples -- but very useful.

[2] Couldn't use any verbal description not useful without demonstration. Workshop should have picked two people for 15-minute presentations with demos.

[2] Again, just not much new to me.

[4] It was worthwhile to discuss our favorite (and least favorite) teaching techniques -- good discussion.

[2] Not entirely helpful.

[4] Useful variations on a number of teaching techniques.

[4] See previous comments.

[] Missed this session.

[2] I'm uncertain where this really fit in the larger scheme of things (sorry, Ken; it's not a omment on you. I was just left wondered why this half-hour?).

[4] Some useful stuff. We need more time on teaching methods-- preferably tied to ethics goals.

[4] Very helpful. I twould have been good to know in advance that we were the participants. I had assumed that the workshop lecturers were discussing their favorite teaching techniques, and was not prepared.

[2] I didn't get too much out of this.

Using Human Subjects in Research (Smith)

N = 17, Min = 2, Max = 5, Avg = 4.29

Readings: The Belmont Report, "Learning to Deceive" and "Abandoning Informed Consent"

[5] This was a very nice summary of historical underpinnings of informed consent. Very refreshing change to what can be a prachy topic.

[4] I enjoyed this session--stimulated good discussion. I am still troubled by the potential for existential limitation and Pellegrino's concern that we abandon some people to their autonomy. I'll work on this further.

[5] Nice overview.

[2] I'd like to see David tell us to read Belmont nite before the ten minute summarize it and ask us to discuss violations we've experienced; maybe in two groups.

[5] Marvelous short lecture, very good personal handling of discussion. Wish there had been a strand of these sessions. I started a good case study discussion (fetal alcohol). There might be one in the next syllabus.

[4] Very nice job of outling principles and arguments.

[4] An interesting session -- the considerations of doctor/patient and researcher/subject were very interesting.

[5] Very informatiavae. Would like to hear more.

[5] Both the presentation and the question/answer interactions were helpful.

[5] Excelent look at topic. Presented views and approaches not usually considered by most researchers.

[] Missed.

[2] Biomedical research dominates the presentation and framework for discussion. Need to move beyond the Belmont Report to the larger domain of all research.

[5] Very good! and I have little interest in the subject.

[5] I appreciated rereading this -- haven't since grad school. I also appreciated the very creative reading.

Responsible Data Management Practices (Edward Rothman)

N = 18, Min = .5, Max = 5, Avg = 2.14

[3] This presenter is extremely informed on the effective and responsible use of data and statistics. His presentation would be improved by being clearer about the major points/objectives he hopes we will learn via his session. Also, I would appreciate some attention to data ownership, presentation and storage.

[3] Would have appreciated more on the ethics of data management. Curious about issues related to the democratization of data and access via technology.

[3] Unfocussed and unprepared -- I suspect somewhat stale and we didn't merit any new preparation. Personally -- nice personality.

[1] Horrible. I'm embarrassed.

[1-] Really quite awful. No tie to workshop themes--he made up an ethical "obligation" to do data analysis to his standards (which are also mine, but that's not the point)--not as case study, no ordering principle, too many examples, utterly deaf to audience concerns. Rothman seems insensitive, in fact, to all specifically ethical concerns --sees them as professional instead. Finally, nothing at all about "data management," his actual assignment.

[1] Sort of a "statistics for the layperson" talk that was completely uninformative for me.

[3] Interesting, but for me it missed the mark for topics that interested me. The presentation was entirely one of human/animal subjects, with little content on data management outside those areas.

[2] Poorly organized. Would have been useful to have handout of lecture material. Hard to know what to take home It would have been very helpful to have some reading suggestions.

[1] Didn't get very much out of this. Seemed unorganized.

[1] This presentation did not address data management. Instead, it was an elementary-level lecture on statistics and research methods--and a poor one at that. The content was aimed at a level too low for the expertise of this audience.

[2] I guess everyone has an off-day every once in a while. Rather unfocused.

[] Missed.

[1] Entertaining speaker with whom I would like to discuss many of the issues he raised, but he did not really address the crucial issues implied in the title (e.g., access, data archiving, the anticipated impact of the internet a data management and sharing, the democratization of information access created by computer networks.

[2] Ok. Too harsh. It wasn't totally useless. Just not very well done.

[1] Too random and anecdotal to be of much value.

[1] Though the speaker was entertaining and the ideas sound, too basic a content for this group.

[5] An engaging speaker. I liked his ability to describe the subtle problems in the "interocular traumatic test."

Using Animal Subjects in Research (Lilly-Marlene Russow)

N =18, Min = 1, Max = 5, Avg = 3.72

[2] This prersenter made the assumption this group was familiar with the basic animal welfare regulations. I do not think that was correct. It would have been helpful to renew these. Again, the presenter was not clar about what we were to learn from this talk. Participants did not know how to apply what she said to considering animal use in research.

[4] I left this session more conflicted than I entered. It was interesting and provocative (which I loved). Led to lively discussion right on through dinner. I need more work on this to get more in my head than my gut.

[5] Can't do better for an overview of big topic.

[5] I do not think I need to know much about this but she was good!

[5] Short, to the point, and repetitive enough that we knew what that point was. Wish she had answered my question (another case study). The idea that part of animal ethics is the ability to argue is particularly novel to me.

[4] Very provocative, but I really don't agree with the consistency agreement itself, or even the need to impose such a criteria.

[3] Content was fairly obvious and not very illuminating.

[4] Presentation was lack luster but discussion was very enlightening.

[4] Well-done, provocative talk discussion. The ideas will stay with me and contribute to my thoughts on this matter for some time. Some opinions seemed very biased.

[3] A tough topic for anyone to do justice to. It's fascinating that people get more involved in discussion on treatment of animals than people.

[] Missed.

[1] Ms. Russow's perspective on animal subjects in research, which I assume must reflect a consensus view, smacks against all of my training as an anthropologist. I disagree with Ms. Russow's basic premises.

[3] Provide some stronger help for dealing with the complex issues.

[4] Very provocative and stimulating viewpoint. Especially juxtaposed to Smith's discussion of human subjects.

[5] Extremely interesting tenets -- the 2 bad and 1 good argument. Though I couldn't agree or put my disagreement into arguments, I admire her courage in presenting the arguments.

[2] Could have been presented with a bit more fire, but the rational approach still came through. She lost a lot of credibility at the end, though, with "some humans are not persons and some nonhumans are persons."

Teaching Ethical Issues in Animal Research (Moderator: Russow. Panel members: Lynne Olson and Brenda Russell)

N = 15, Min = 1, Max = 5, Avg = 2.80

[2] Good people, but representation of more varied view points would have been more stimulating for my needs.

[2] Left with little feelings -- not really a discussion but 2 additional talks. Maybe trying too much.

[0] I passed.

[3] Not really about the topic of teaching, though interesting about the politics of the area.

[2] A bit slow -- seemed (from the standpoint of someone outside the life of sciences) to be a re-hash of what went on before.

[3] Interesting discussion but not particularly helpful from a teaching perspective.

[5] Other than articles in the popular press and presentations on television, this is the first exposure I've had to these issues. I learned a lot, but still need some resources in this area to understand more (some physiology of exercise research is conducted among animal subjects). Good discussion.

[3] See above.

[] Missed.

[3] Good; better than the preceding discussion; not so polemical.

[2] Not very useful. Skip it.

[2] This discussion might have been more productive it if immediately followed the lecture above. Many of the interesting issues addressed by Russow after her lecture would have been better for panel discussion.

[] Had to phone the office, missed it.

[1] Didn't get much out of this. One of the panel members disappeared!

Using HyperCard and Case Builder to Create Interactive Case Studies (optional) (Pimple)

N = 1, Min = 3, Max = 3, Avg = 3.00

Reading: "Using HyperCard and Case Builder to Create Interactive Case Studies."

[0] Did not attend (had meeting of small groups [5:30] and then dinner). Sorry to miss it, but surely had a nice evening and enjoyed the time to talk with people from other disciplines. What a great group of people.

[0] I'm IBM.

[0] Did not attend.

[0] Didn't attend.

[] Did not attend.

[] Missed.

[] Getting my presentation ready, missed it.

Conflicts of Interest in Research (Edward Goldman)

N = 18, Min = 3, Max = 5, Avg = 4.28

Readings: "Framework for Institutional Policies and Procedures to Deal with Misconduct in Research," "AAMC Participates in FDA Board Discussion of Conflicts of Interest," New York Times article, University of Michigan conflict of interest rules, and "Institutional Conflict of Interest."

[4] I appreciated an experienced person such as Goldman talking to us. I would have appreciated his using actual cases of conflict of interest in research to illustrate the principles he discussed.

[4] Nice beginning for me. I need more work here, but got some good ideas about where to begin.

[4] Delightful person and nice approach -- could use more time and discussion.

[5] Great, though I was not wild about his trigger assignment.

[5+] "Like drinking from a firehose" -- a fabulous session, wish it was twice as long, and wish Ed did the U-M session instead of me! MOST helpful--I thought I knew how to teach this stuff, but I was totally wrong.

[4] A good presentation, but it seemed to be a big diffuse, with some unanswered questions.

[4] Entertaining and informative. Good handouts. Somewhat hard to follow his line of thought at

times.

[4] Would have liked to spend more time on cases rather than rules and regulations.

[4] The presentation helped me to understand what conflict of interest is and is not, but did not help me much with respect to knowing what to do about it.

[5] Dynamic presentation. Speaker did a good job with group involvement and in separatiang C of I from other issues.

[] Missed.

[4] Good reading materials and discussion; challenged me to consider the issues from different perspectives that should be useful in class situations. Somewhat dogmatic in his outlook.

[4] Good exposition of a difficult issue, albeit one that isn't central to most of our courses.

[4] Good. Both from the standpoint of background information about conflict of interest regulations and also the teaching techniques for such dry subjects.

[5] Excellent presentation of very dry, boring material. I very much appreciated his perspective.

[4] An engaging speaker.

Shaping Scientific Thought: Ambiguities in the Practice of Science (Fred Grinnell)

N = 18, Min = 3, Max = 5, Avg = 4.44

Readings: "Scientific Misconduct: Science at Risk" in The Scientific Attitude and "Ambiguity in the Practice of Science."

[5] The presenter was excellent.

[4] Interesting sesson.

[4] Nice approach.

[5] Great. I'll read his book now.

[3] Not as sophisticated as it should have been--not pointed enough toward concerns of misconduct and its publicity, let alone the other misconceptions. Some nice responses, though.

[5] Excellent and provocative presentation.

[5] Fred has an important message that is highly useful to scientists. I recommend his book to all my students.

[4] Very thought provoking.

[5] Provocative presentation. Effective examples.

[4] Good presentation--good flow.

[4] Also good; well-organzied presentation and good examples (and book) to buttress it. I'll definitely be able to use this material in classes.

[3] I missed the first five minutes but I never did figure out where this come from or where it was going.

[5] Another excellent presentation. Nice entertwining of philosophy and science.

[5] First class presentation.

Presentations by small groups and IAC

N = 18, Min = 2, Max = 5, Avg = 3.89

[2] I am not sure these exercises are useful. I am looking forward to tomorrow to see if past participants have built on these exercises or more on the workshop in general. Perhaps the exercise should focus on real classes participants must teach. Participants could bring their real class and others could select which project ot work on.

[5] Of course now that I've bonded with the group, it was fun to see them/us able to demonstrate application. I admit to clear bias on this one.

[4] For exit not sure how useful. Writing case studies was useful.

[] I was not happy with our DATA MGTk, but at least we were better than Rothman.

[2] Not very helpful (altho' necessary for the small groups to have something to do)--not enough time to learn from any of the others--need fewer groups, more time each. Exception: the human subjects group--actually managed a demo with discussion in 15 minutes!

[4] The small group presentations were good. I think the handouts will be useful, at least when adapted, to seminars and/or courses in ethics of research.

[5] I expect to use most or all of these ideas.

[4] Better than I thought it would be. Got a lot of interesting ideas from this session that I can use back here.

[3] Ok, but seems perfunctory.

[4] We done good!

[5] Great idea. I enjoyed working on these projects and hearing about the other groups. One of the best parts of the workshop as it helped to solidify what we had been learning and discussing.

[5] Mostly very creative.

[2] I didn't get much out.

Presentations from TRE 1994 and 1995 alumni/ae (Bryan Pfingst, Wendell McBurney and Janet Glaser)

N= 13, Min = 2, Max = 5, Avg = 4.08

Reading: "Research Responsibility Curriculum."

[3] Show and tell - okay.

[5] Very good.

[4] It was interesting to see the various implementations.

[5] Very helpful and practical.

[4] See previous.

[3] Good because it gave scope to the range of potential applications of the material. I did not, perhaps, find it as useful as I might have because I already teach an ethics section that works.

[] Janet--full of helpful hints. Others less helpful but interesting.

[2] Ok. A little dry.

Small group and Intensive Assessment Cohort meetings

N = 15, Min = 3, Max = 5, Avg = 4.50

Bebeau N = 3, Min = 3, Max = 5, Avg = 4.00

[5] Really helpful, supportive, informative. Good sense of humor--made it fun. She has an advocating style that is a joy. Thanks!

[4] We did a lot of free associating which helped clarify a lot in my mind.

[3] It took us a long time to gel. I felt we often went "off track" and didn't use our time as efficiently as possible. However, I was honored to work closely with Dr. Bebeau.

Koertge N = 3, Min = 4, Max = 5, Avg = 4.33

[5] A fine set of interactions among a very diverse group of surprisingly charming people.

[4] Very helpful and stimulating. Good experience getting to know others who are interested in research ethics.

[4] Interesting and helpful facilitator but inserted her own (very interesting) opinion too freely.

Pedroni N = 3, Min = 4.5, Max = 5, Avg = 4.83

[5] The small group was an effective way to facilitate introductions to other conference participants. In addition to completing our assigned task, we had time for some reflection on conference presentations and the issues under consideration.

[4+] Julia was very nice, helpful and sympathetic. Her role and the small groups in general do not seem as integrated into the program as they perhaps should be. They seem sufficient but unnecessary.

Schrag N = 2, Min = 5, Max = 5, Avg = 5.00

[5] Brian did an excellent job facillating the group. He knew how much input to provide and when to let the group work on its own.

Zolan N = 4, Min = 4, Max = 5, Avg = 4.50

[5] She was very organized and kept the group moving forward toward a goal.

[5] Mimi did an excellent job in guiding the group and facilitating the group's work.

Part Two: General Comments

How would you rate the workshop overall? N = 19, Min = 4, Max = 5, Avg = 4.53

[5] Thank you soooooo much. I really enjoyed the content, the resources, the support, the atmosphere, and the wonderfully talented people I had the opportunity to meet. I am excited about implementing the ethics of research course and have gotten some wonderful ideas to enrich the course (and other ethic courses as well).

[4] I consider myself a fairly harsh judge, but it was valuable.

[5] Overall, I cannot imagine a better use of four days--though I wish we had been worked harder (i.e., more optional evening sessions--those of us not in the IAC had nothing to do) -- only one bad lecture out of 14.

[4] A few very good presentations, and lots of interesting discussions with other participants. Teaching stuff was too generic -- much not specific to ethics, "old news" to me. Could have fit a much shorter time frame. The whole was greater than the sum of the parts.

[4+] The workshop was excellent. The emphasis on human/animal subjects is certainly understandable, given the stance of NIH and the composition of the class, but for me, the only (and relatively minor) minus was the the animal/human subject emphasis. The workshop was run with a very efficient yet comfortable atmosphere. Ken Pimple did a wonderful job.

[4] I was fairly naive about certain aspects of ethical behavior in biomedical and animal research at the beginning of the week. I learned a great deal, and now have available resources (both material and personnel) to help me learn more. Thanks for your efforts!

[4] Content, organization, and staff were excellent. Most everyone seemed to take it very seriously and enthusiastically, even though it was third (?) time through. Only problem -- a little long. Might have been better to start Monday am and finish Thursday.

[4] Lots of good teaching methods. Wonderful group of participants. Well read. Would like to suggest that any classes developed as result of this workshop not just do cases but have some sessions on ethical underpinnings behind confidentiality, informed consent, competence.

[4+] Exceptional; very well organized. The participants and the staff are all excellent people with whom to work. I learned a great deal that will end up in my courses.

[4+] Not quite perfect--but close.

[4+] Terrific experience! Good balance of theory and background information with practical tools and techniques to apply them. I appreciate the wealth of resources that you provided to us as well as the detailed summaries of other available books, videos, etc.

[5] I am packed. I wish I could have prepared more thoroughly, but job demands are heavy!

[5] A good primer in ethical issues and teaching them. I feel conficent that with some practice I can teach such materials effectively myself. Superb organization made the workshop run very smoothly. The large packet of take-home books and notes should be most useful--the items seem very well selected.

What element of the workshop had the most take-away value for you? What really made an impression on you or changed your point of view?

Concrete examples at the end. Books are wonderful. The lectures on alternative theories of moral reasoning provided a foundation for all the discussion.

Moral reasoning. Lilly Marlene Russow presentation original applicable to my teaching--will use!

Variations on course for analysis techniques. Resources for my own further study. Insight into the discipline based variations re issues, policies, and practices. Some new assessment strategies for measuring student learning which I will implement in several courses with appropriate adaption. The generosity of all the participants in sharing their knowledge and experience. The effott that went into making this run so smoothly.

Reviews of their issues from Smith, Goldman, good models. Ken's teaching ideas very useful. Materials and books a wonderful gift. Went home and read 'Cantor's Dilemma' immediately.

I am now VERY comfortable with the knowledge side of research ethics.

All the case study sessions--not "mock" [?] at all--wonderful level [?] of energy and expert facilitators--much to imitate immediately. Talk by straight philosophers (Smith, Russow)--guides to wisdom rather than rule-following. The ubiquity of these concerns are areas and cultures of research.

Realizing the scope and importance of teaching research ethics.

The element of the workshop that had the most "take-away" value for me was the use of case studies. I can see where case studies can engage studnets in ways that a "lecture-only" format would not, and that is really a change in my point of view. Another major "take-away" element for me was the "workability" of considering the moral sensibility, ethical reasoning, moral committment as a framework for thinking about ethical research problems.

The philosophical basis/structure of ethics was very useful also the reading material will be valuablae as I plan to teach our students on the topic. The specific pedagogical tools--especially Miki's model for teaching/assessing moral reasoning and Keri's short writing models were excellent. The size of the workshop, use of small groups, receptions/dinners all facilitated secondary interactions away from the formal workshop which enhanced the experience. I was struck at how many times different participants talked about how the workshop stimulated them to look at ethical issues in a different way.

Ideas for implementation of a course on research ethics for graduate students of medical, biological and agricultural sciences.

The wide variety of teaching techniques, context--specific, that involve active learning. The most significant experiences were informal conversations with other conference participants in which I was challenged to examine my perspectives more directly.

I was very much influenced by the foundations of ethics in the practice and community of science. I don't think many scientists spend much time thinking about such tings, nor do many graduate students get any exposure to them. Ideas on how science "works," and how it "should work" will certainly find their way into my teaching in the future.

That cases could be used so effectively. Still think they need to be used carefully and with some good information about concept-theory-philosophy presented or the cases just become relativism to students. The materials are wonderful.

Most take away value: Hard to answer because there was a lot. The bibliographies, the discussions, the handouts and books. Great impressions: 1) area is too strongly dominated by biomedical concerns and clinical trials; 2) the whole thing assumes that the researcher is working in the U.S., speaks and reads English, and was raised in the Judeo-Christian tradition. The latter sure catches a lot of us but putting it all in cross-cultural perspective broadens understanding quite a lot.

The teaching methods material--particularly Ken and Karen. I feel a bit guilty about this answer, though, since I come to learn research ethics for my own course and I really did do that.

Probably the most important point is that this workshop made me more aware of my own assumptions and narrow ways of thinking about these problems. By formally going through the exercise of identifying the interested parties and then analyzing the conflicts and risks/benefits, it is possible to view the problems from a much and broader perspective. I was also very imporatnt to be able to freely discuss these issues with colleagues (other faculty members, researchers, administrators) and with knowledgegable and caring facilitators under conditions where our only vested interest is learning.

Developing a moral argument. Going beyond FPP. The case study as a teaching method.

Clarified some general impressions. Provided framework for developing a course. Suggested various ways to present material.

How might the Poynter Center assist you in continuing your training in teaching research ethics?

I feel free to call for advice and counsel as I need it and that is an invaluable gift. Special thanks to Ken for keeping a very independnet group focused.

Perhaps help with web questions on specific workshops. Perhaps do a 'road show' at Purdue. There is a core that would help and you could help focus the many segments at Purdue.

Perhaps specific workshops on human subjects or IACUC!

I have to ponder this.

Web home page link to public case studies. Workshop in leading case study per se/how to facilitate/how to stay apart. Transcriptions of news items (Imanishi-Kari etc.).

Perhaps e-mail or mailings listing new materials and activities in the field of research ethics.

How about traveling to different institutions and offering the workshop there? The value of the workshop is such that I would like more of my colleagues to have the opportunity to participate.

By development of a listserver for alumae to continue to interact via the internet about issues surrounding research ethics and teaching research ethics.

Continue current efforts to post information and conversation about research ethics on the world wide web and internet sites. Send a roster of participants in previous workshops so that we know other people from our campus who have some interest in this area.

Consider a followup workshop for those who institute classes in research ethics.

Stay as member. Bring us back for more sessions. Perhaps more on committees on misconduct in research. Focused workshops on e.g., informed consent, confidentiality, handling data, etc. Teleconferences b/w CIC.

I'm uncertain. Probably the next step for me is to pursue inter-disciplinary course developemnt at UMC. If/when we do that, having access to example course syllabi on your web page might be real handy.

I'm not sure yet but watch your e-mail. I will ask.

Short workshops (e.g., one day), at your institution or ours, that are focused on single issues such as communication, data management, etc. In your newsletter, please cite any new books, videos, etc. that are available and, if your time permits, provide a brief review and assessment.

I am very grateful for the extensive arsenal of materials -- readers, books, documents. A method of updating (such as the list in TRENDS) would be helpful.

Will keep informed via newsletters, etc.

Any additional comments?

I really appreciated this site for the workshop. The Union was a great facility, the campus was wonderful, the restaurants nearby were great, and the recreational access was superb.

What I formerly viewed as management problems, I now conclude are ethical problems! The scope of your work is vast! Failures in leadership are ethical problems!

Time too packed especially for those who had evening meetings. Little time for some of us to exchange ideas with others outside classroom, reflect, or read carefully and thoughtfully. There were as many people with so much to share. I was greedy for a little more time to talk one on one. Trouble is, I don't know what I would sacrifice to achieve it.

A retreat approach using all 24 hours--day and evenings so we could spend only 2-3 days--whole week is not easy on work or home.

I think you have to find a way to take advantage of the CASE knowledge and wisdom of the group. If you, Ken and David, could do that, controlling us when its needed, it would be more valuable.

Bravo to Pimple and all the other Poynter staff.

Send reading to participants earlier. I was caught with little time to read due to a grant proposal and another trip. A half-day off mid-week would be nice for both a respite from the intense focus on one topic area and for an opportunity to visit local attractions. A suggested topic somewhere is writing letters of recommendation, reviews, PT judgments, etc.--How to handle negative recommendations.

Thanks so much for including me. Perhaps a library of policies from the CIC available.

Include an anthropologist or someone in another field with extensive international research experience in order to broaden and contextualize the group's assessment of research ethics issues. Go beyond the rather narrow (but very important) domain of biomedical research and clinical trials to consider non-experimental designs. The "Beyond Consent" touched on these issues but they should be integrated into the whole, not left as an add-on afterthought. It's not just a small 'niche' topic. It's a big problem in many areas of research outside of the narrow scope addressed in the workshop. In closing, I greatly enjoyed the workshop. I learned a lot and met a bunch of extremely talented and pleasant people. Thanks.

Locale, accommodations (IMU), facilities, staff were all great.

Great work both in development and implementation of the workshop. I hope you are able to continue it and will encourage support at my institution. Thanks again!

Thanks for all your hard work, making us feel welcome, planning activities, and coordinating marvelous experts. I enjoyed the comraderie with participants. One recommendation -- we need a break from it all. I'd suggest the Wednesday pm slot. Thanks again.

Too bad the three year series is over. Should be available and highly recommended for as many faculty as possible.

Summary of numerical ratings, sorted by average

Presenter	Session	N	Min	Max	Avg
	Overall	19	4	5	4.53
Main sessions					
Rothman	Responsible data management	18	.5	5	2.14
Panel	Teaching ethical issues of animal research	15	1	5	2.80
Bebeau	Assessment I	19	1	5	3.18
Pimple	Favorite teaching techniques	17	2	5	3.35
Fischer	Ethics as survival skill	18	1	5	3.53
Pimple	Using writing assignments	18	1	5	3.61
Bebeau	Assessment II	18	1	5	3.61
Pimple	Using small groups	19	2	5	3.63
Elliott	Using video	16	2	5	3.68
Russow	Animal subjects	18	1	5	3.72
Smith	Teaching Ethics in the University	14	2	5	3.86
Smith	Overview of ethical theory	19	2	5	4.16
Muskavitch	Using case studies	19	3	5	4.21
Goldman	Conflicts of interest	18	3	5	4.28
Smith	Human subjects	17	2	5	4.29
Muskavitch	Developing and choosing cases	17	3	5	4.35
Grinnell	Shaping scientific thought	18	3	5	4.44
Gunsalus	Investigating fraud and misconduct	17	3	5	4.53

Other sessions					
Pimple	Case Builder	1	3	3	3.00
	Small group presentations	18	2	5	3.89
	Alumni/ae presentations	13	2	5	4.08
Koertge	Small group meetings	3	4	5	4.33
(video)	"Burden of Knowledge"	8	3	5	4.38
Bebeau	IAC meetings	3	3	5	4.50
	Small group meetings (all)	15	3	5	4.50
Zolan	Small group meetings	4	4	5	4.50
Pedroni	Small group meetings	3	4.5	5	4.83
Schrag	Small group meetings	2	5	5	5.00

Appendix

1997 External Evaluator's Report

Teaching Research Ethics: A Workshop at Indiana University

Evaluation Report, Year Three

Laura W. Ettinger
External Evaluator

September 1996

Teaching Research Ethics: A Workshop at Indiana University
Evaluation Report, Year Three

Laura Ettinger, External Evaluator
September 1996

Introduction: The Workshop and Purpose of the Year Three Evaluation

An independent evaluation was conducted by Laura Ettinger of Indiana University of the Teaching Research Ethics (TRE) Workshop, a three-year federally funded project administered by The Poynter Center for the Study of Ethics and American Institutions of Indiana University. The workshop was supported by a grant from the U.S. Department of Education Fund for the Improvement of Postsecondary Education with additional support from the Office of Research and the University Graduate School at Indiana University. The primary goal of the workshop is to help graduate faculty members incorporate the teaching of research ethics into their courses, with an emphasis on the life sciences. Intended outcomes for the workshop include acquisition by participants of pedagogical strategies for teaching research ethics, and exploration of ethical issues affecting the conduct of scientific research.

This evaluation has concentrated on the long-term impact of the workshop on alumni, their departments, and their students. This focus represents a departure from the approach taken in the external evaluations of years one and two of the TRE workshop in recognition of the fact that 1996 is the concluding year of FIPSE funding for the project. It was determined by the evaluator and the project staff that an evaluation that attempted to assess the lasting value of the workshop to participants would have greater utility for future activities of the project sponsor than merely evaluating the delivery of and immediate participant reactions to the 1996 workshop. Therefore, the objectives for conducting the 1996 TRE Workshop Evaluation were to:

- Assess whether, and in what ways, the workshop continues to influence participant thinking and practice one and two years after attendance;
- Evaluate the extent to which participants' colleagues and students have benefited directly and indirectly from the workshop;
- Determine whether there exists a need for additional professional development for graduate faculty members in the teaching of research ethics, and if so, what role The Poynter Center might play in meeting these needs.

Evaluation Methodology

This evaluation report has been informed by internal documents and based on data collected through interviews, document analysis, observation, and pre-workshop survey and participant evaluation analysis. Data collected between May and July of 1996 is analyzed and reported here. The evaluation features:

- A responsive, naturalistic approach with key stakeholders;

- An issue structure with issues determined collaboratively with project staff to guide data collection and analysis (See Appendix A for preliminary evaluation issues);

- Interviews with workshop alumni from 1994 and 1995 and select 1996 workshop participants;

- Discussions with project staff;

- Observation during presentations from 1995 workshop alumni on courses and projects undertaken since their workshop delivered during the final day of the 1996 program;

- Review of documents, including pre-workshop surveys, evaluations for years one and two of the workshop, and process documents.

All alumni and participant interviews were conducted over the telephone between May and July of 1996. The pool of approximately 60 alumni was reviewed and prioritized by project directors, Kenneth Pimple and Karen Muskavitch. An effort was made to generate a sample of respondents that included: representatives from each of the participating universities; representatives from a variety of academic departments and disciplines; and both male and female participants. Additionally, an effort was made to interview participants from the 1995 workshop who had been interviewed for the year-two evaluation. An interview protocol was developed by the evaluator and approved by project staff for use during the telephone interviews. This protocol and an explanatory cover letter signed by the project director were sent by project staff to all alumni of the 1994 and 1995 workshops prior to the scheduling and execution of the interviews. An appropriately modified version of the interview protocol was used with 1996 workshop participants to assess their perceptions of the lasting value of the information gained to their work. (See Appendix B, data collection instruments) Interviews lasting approximately 45 minutes in length were conducted with the following individuals (year of participation in parentheses):

Henrietta Logan, University of Iowa, Dentistry (1994)
Marquis Foreman, University of Illinois-Chicago, Medical-Surgical Nursing (1994)
Daniel Walsh, University of Illinois, Education (1994)
Wendell McBurney, Indiana University/Purdue University-Indianapolis, Research and Sponsored Programs (1994)
Fred Lytle, Purdue University, Department of Chemistry (1994)
Tom Hickey, University of Michigan, Health Behavior and Health Education (1994)
Joe Dan Coulter, University of Iowa, Neuroscience (1994)
Evan Sugarbaker, Ohio State University, Physics (1994)
Stuart Offenbach, Purdue University, Psychological Sciences (1994)
Alvin Telser, Northwestern University, Cell, Molecular and Structural Biology (1994)
Brian Coppola, University of Michigan, Chemistry (1994)
Brian Pfingst, University of Michigan, Hearing (1994)
Steven Clark, University of Wisconsin-Madison, Human Oncology (1996)

Data analysis involved review, summarization, and categorization of documents; identification of themes and refinement of preliminary issues to guide understanding and to structure the evaluation report; analytic discussions between the evaluator and the project staff for the purposes of issue refinement; and review of a draft of the report by the evaluator and project staff, providing a final analytic opportunity.

Issue-based Analysis of TRE Workshop

The preliminary issues which focused data collection were refined during data analysis. The resulting 14 issues, divided into four sections — impact on the workshop participant, impact on colleagues and department, impact on students, and need for continuing education — structure the body (data presentation, analysis, and conclusions) of this evaluation report.

IMPACT ON WORKSHOP PARTICIPANT

1. What has been learned about the workshop's impact on participants' evolution in thinking about research ethics?

All respondents indicated that the workshop was responsible for effecting some level of change in their thinking about research ethics. As would be expected, the extent to which an individual's thinking was enhanced varied considerably depending on his/her prior exposure and expertise in the area.

At the end of the spectrum of most significant impact was Professor Stuart Offenbach who rated the workshop as one of the more "critically important intellectual experiences of his recent career." As a result of his participation, Professor Offenbach is much more concerned with the teaching of research ethics and considerably more sensitive to the kinds of ethical issues that exist relating to multiple authorships, courtesy authorships, manipulating data, and generally, what constitutes research misconduct. Professor Fred Lytle also reported that there has been a significant change in his thinking although he finds it difficult to separate the influence of the workshop from that of an on-site program that David Smith, Michael Pritchard, and Karen Muskavitch conducted at Purdue. Having had little training in ethics since his undergraduate days, he feels he has gained a deeper appreciation for the complexity of ethics and also now has a library of 20-30 references to draw upon. For Professor Henrietta Logan, the workshop expanded her understanding of the complexities of the issue by providing an opportunity to approach the issue from numerous and diverse disciplines and perspectives. In particular, the workshop enhanced her understanding of the difference between mistakes and intentionality and the complexities of conflict of interest as it concerns private monies and federal monies. While she had already sat on an Institutional Review Board and had taught classes on the ethics of human research, she gained useful new perspectives and an enhanced depth of understanding. The Cold Fusion problem, for example, presented for her a new point of view — the media's.

Professor Tom Hickey came away from the workshop with an enhanced understanding of the importance of modeling and articulating the complexities of research ethics rather than just describing types of ethical situations in his teaching. For Professor Evan Sugarbaker, the workshop raised his level of thinking about research ethics both in his own research and in his collaborative work. With his teaching, he is much more aware of what he may be able to do and what he should attempt to accomplish with his students. Previously he had served on a misconduct committee and saw from that participation that there were many potential problems that needed to be addressed. Now as a result of the workshop, he feels better prepared to anticipate the occurrence of these problems and seek solutions. Professor Joe Dan Coulter described himself as "different" as a result of having taken the workshop. While he was already very interested in these issues and had chaired an AAMC committee for faculty misconduct which evolved to a committee on research integrity, he found the workshop to be an effective mechanism for gaining added credibility which served him well in the NIH requirements for graduate training in this area. Professor Steven Clark, a recent 1996 workshop participant, indicated that the opportunity to interact with others has sharpened his awareness of the depth and breadth of the issues so that he can better appreciate their nuances.

Professor Brian Coppola indicated that the workshop has substantially affected his thinking about teaching research ethics. He previously had little exposure to formal ethical reasoning. Now, these ideas provide one of the sorting devices that he routinely "shops through" in research and teaching situations. He is both intellectually and emotionally intrigued by the ideas, so much so that he has co-authored an article on the subject. For Professor Alvin Telser, the workshop provided a contemporary, global context for his own thinking about ethics, and in effect, reawakened his awareness of the importance of devoting formal time to the study of ethics. He found especially useful the presentations by David Smith and Nicholas Steneck. Professor Telser uses the information in his medical school classes where he has learned how to ask open-ended questions and to stimulate interesting discussion with students from the biotechnology and pharmacy disciplines whose backgrounds enable them to grasp issues related to credit for data. These students who come primarily from industry also understand issues of "personal involvement" in situations related to gender better than students coming immediately from undergraduate education.

Even participants like Professor Marquis Foreman, who felt that he probably was not the most appropriate choice for attendee from his university "because he does not work in a lab setting and does not collaborate with students in the same way that most participants seemed to," indicated that the workshop has heightened his sensitivity in the relationships that he has with students. He has observed this enhanced awareness in his discussions with students about potentially difficult situations, e.g. whether their participation in a project would warrant authorship. Foreman's primary interests lie in the ethics of dealing with human subjects, although his college is becoming more sensitive to issues of authorship, especially as related to gender and sexual harassment because most students are women. Professor Daniel Walsh, another "outsider" among the bench scientists in attendance, reports that his thinking has not changed significantly. What has changed are the ideas that he has gained about how to incorporate teaching ethics into his classes. While many of the workshop discussions and materials were not directly relevant to his work with human subjects (e.g., "fudging data" is not a problematic issue with his students and maintaining funding is less important as most of their work is not driven by large grants), he has realized that the training of graduate students to do fieldwork has been very inadequate resulting in some potential "time bombs." As a result of his workshop participation, he has come to understand that he must do a much better job of carefully monitoring their work with human subjects to avoid unethical situations. For Professor Wendell McBurney, previous interest in these ideas and issues because of the position that he holds within the university precluded a large change in thinking per se. The issues are, however, more on his mind than before.

Other respondents identified the acquisition of tools and techniques rather than any evolution in thinking as the primary outcome of workshop participation. Professor Brian Pfingst has found the cases provided at the workshop and the methods of using them to be a very useful teaching tool. While he had previously obtained cases from the Poynter Center and had used cases of other groups as well, the cases from the workshop were broader and so more valuable to him.

2. What goals did participants have for applying the information and ideas gained through the workshop?

While it is unclear whether many workshop participants actually had clearly defined goals going into the program, it is apparent that virtually all emerged with some desire to apply the information and ideas either formally or informally in their own practice. These intentions have been translated into new course designs, existing course modification, and/or the use of expanded and enhanced pedagogical strategies by participants. The majority of respondents described self-initiated efforts; only one respondent, Professor Logan, remarked that she had been asked by others to share her enhanced expertise in the area. She has been invited both to teach several classes and graduate seminars and to look broadly at institutional conflict of interest, declining the latter opportunity because of other priorities for her time. Professor Logan suggested that such limitations on her time have meant that the information and ideas have most directly been applied to her teaching and own thinking about research ethics.

Other respondents whose post-workshop goals have focused on course development include Professor Foreman who is developing one new undergraduate course and one new graduate course, neither of which are research-based but both which offer "nice opportunities to include a focus on ethics." He plans to use the case study approach for addressing ethics in these courses. Professor Walsh's goal after the workshop was to incorporate the teaching of ethics into the Introduction to Educational Research course that he teaches to 50-70 post-master's students annually. The ideas and information also have been instrumental to Professor McBurney's efforts to organize a course on research ethics for graduates and undergraduates. The course began in the School of Medicine because of NIH requirements and has since been opened campus-wide with Professor McBurney's insistence that undergraduates continue to be allowed to participate. He has also offered a course through the School for Public and Environmental Affairs for 15-20 years which has included a new focus since his workshop participation on the "ethics of asking for and spending other peoples' money."

Professor Offenbach described having "grandiose goals" for using the ideas and information from the workshop. He and a group of others have submitted a grant to the university to develop an applied ethics program, one course of which will focus on research ethics. The development of this grant proposal is a direct result of his participation in the workshop as others who are involved with the grant have become interested through his involvement. They expect to hear in the near future about the success of the grant, which is part of a university reinvestment plan. Professor Hickey's overall goal was to enhance his teaching about research ethics, particularly in the ethics course that he offers for masters in public health and which attracts students who are both researchers and practitioners in public health. Previously he was using the case study approach somewhat, but the workshop significantly expanded his ability to use cases as a learning method.

As the curriculum coordinator for undergraduate chemistry, Professor Coppola had considerable motivation for acquiring and applying new ideas gained from the workshop. He is especially interested in integrating the information gained throughout the undergraduate experience. He observes that the transition from undergraduate studies in chemistry to graduate studies and professional work in chemistry has historically been "free of values" in that faculty simply have not paid much attention to ethics for undergraduates. His goal with the workshop was gain insights and strategies that would enable him to change this practice and perception. Professor Pfingst's department had initiated a committee on research standards and ethics. His goal and that of his colleagues who also participated in the workshop was to find a better way of conducting their programs. At the workshop they realized that there existed a need for a university-wide, centralized teaching program. The fact that they had a multi-disciplinary team of participants at the workshop helped expedite that effort. Their mission was to develop a university-wide teaching program that would meet once per moth. Professor Pfingst feels that it was very useful to the university to be able to identify ten people who had the expertise and training necessary to develop such a centralized teaching program. The resulting program has been highly effective in helping the university to coordinate diffuse efforts across the campus to address research ethics.

Professor Sugarbaker, on the other hand, did not come away from the workshop with the intention of teaching a particular course although participants from his university did. In fact, at the time he did not know how to incorporate the information and ideas gained into his graduate program. He later determined that the concepts and strategies could best be folded into an informal seminar experience. He feels that in the hard sciences there is less of a need to have a course in research ethics, although the issues must be addressed in some formal way, i.e., they cannot be "left to chance." For example, a workshop on "survival skills" for graduate students appears to Professor Sugarbaker to be an effective format. He would like to see the perception raised in the department about what could and should be done because the issues resonate with him, and he feels that they would for others with some exposure. In particular, he noted that authorship is becoming much more difficult in physics as research projects are growing larger and entailing more complex collaborations that often represent a highly politicized processes. Professor Clark has a long-term goal of developing a course on the "nature of science" that will incorporate ethics. More immediately, he feels that he has gained pedagogical strategies for using cases and role playing that will produce more measurable outcomes than what he is currently doing.

Only one respondent, Professor Lytle, could not describe specific desired applications for the information and ideas presented at the workshop. He feels that his goals were probably "radically different" from those of other workshop participants, categorizing himself as something of a misfit at the program. He is not personally interested in studying scientific misconduct as he is "too close to it." Moreover, he believes that his current expertise is sufficient to enable him to peruse the ORI publications and other articles with comprehension, and to work through the ethical issues presented on his own. Previously, he has been a part of the university's Global Ethics team which developed an interdisciplinary, applied ethics course for undergraduates that drew faculty and students from the humanities, business, and the sciences.

3. With what level of ease or difficulty have alumni implemented ideas and information gained through the TRE workshop?

Two respondents, Professors Logan and Hickey, described no difficulties in implementing information. Professor Hickey's goal of enhancing his teaching was accomplished fairly easily — he digested the information readily and found application to be problem-free. For Professor Walsh, incorporating ethics into the introductory research course has not been difficult although many of the cases from the TRE workshop are not directly useful because they focus on science and medicine. His course, which covers educational research from historical, quantitative, qualitative and philosophical perspectives, now contains a strand of ethics throughout. His goal was to infuse the entire course with an ethical orientation which has been accomplished successfully in spite of the fact that the students all come from different educational disciplines and so there is not a lot of commonality around their particular issues. The diversity of perspectives, however, forces them to think about their own issues differently.

Professor Coulter's interdisciplinary program has become a requirement and he has had success with it. Working with a manageable number of students, between 30 and 40, and having chaired and taught the program for years, he has not had difficulty with any of its operations. Professor Coulter did draw the distinction between his own application of ideas and the use to which students and faculty will or will not put the information. Despite having offered the course for three years to generally positive results, evaluation data still suggests that there are people who feel that the study of research ethics is a waste of time. He notes that while many of these people do not want to give this opinion publicly, they are willing to do so on an anonymous evaluation, suggesting that these individuals may recognize that they are swimming against the tide.

Professor Coppola has had very little difficulty implementing the ideas and information in his own honors course where undergraduate students do readings in ethics and write a case as a final project. This class tends to attract students who are selecting the sciences for future study. Additionally, he is currently working with two colleagues to redesign a course in the department that previously focused on scientific writing (and which no faculty wanted to teach). This course has been redesigned as "Professional Development in the Chemical Sciences". Research ethics will play a role in 50% of the curriculum of the course. His interest in the redesign and offering of this course is a direct result of the TRE workshop.

Two generations of workshop alumni from Ohio State University, including Professor Sugarbaker, have worked with their vice president of research to address the question of what the graduate school should do for students, i.e., should the school offer a formal course? At present, various departments are addressing the issue in different ways (including the provision of courses), with all efforts conducted at the "grassroots" level. The crux of the discussion on the table was that the graduate school should not mandate one approach for all departments. Professor Offenbach has himself participated in a graduate lecture series in which three TRE workshop participants presented what they had learned on a panel and others in the audience shared what they were doing with considerable cross-fertilization of ideas occurring. Apparently the real difficulty lies not in implementing the ideas and information, to which many are receptive, but in maintaining momentum and keeping people aware of the ideas that are circulating and of the activities of others.

For other participants, implementation has proceeded somewhat less smoothly or rapidly. Professor Lytle, for example, has been prevented from implementing the ideas gained because of time limitations. All faculty who are involved in the Global Ethics team tend to be heavily involved in other activities, and in fact, he has been forced to drop out of Global Ethics temporarily while he is engaged in teaching student instructors. He hopes to become involved again when his time is more available. Professor Foreman's two courses are currently "just on paper" and implementation of the methods for delivering the information is as yet untested. At Professor Pfingst's university, a year elapsed before the office of the vice president for research agreed to initiate the program. This agreement came only after they realized little success with individual faculty efforts, and moreover, were required to respond to the increased NIH demands for training. Once institutional commitment to starting the program was gained, however, its launch has proceeded smoothly.

For Professor Offenbach, it has not been difficult to implement the ideas on a personal level. It has, however, been more difficult to generate interest at the university level. Professor Offenbach surmises that this lack of any formal indication of interest by the university is indicative of the presence of costs which tend to accompany institutional support. He concludes that if they are successful with the grant, there are conceivably 1,000 graduate students who would want and need to take the courses, and teaching that many students is expensive. Their biggest "fear" is that the grant will be successful. More informally, Professor Offenbach has offered seminars and colloquia to faculty and graduate students on topics in research ethics which are well attended and easy to implement.

4. What ideas or information from the workshop have had the greatest lasting value to alumni?

For several respondents, exposure to and practice in the utilization of the case study approach offered the greatest lasting value. Professor Hickey identified mastery of the case study approach as having had the greatest direct impact, although he feels that the selection of cases was far too narrow and would have benefited from broader topics. Similarly, Professor Sugarbaker feels that the case study approach was especially worthwhile. He had not previously experienced this approach as it is not generally the way that teaching occurs in physics. Professor Pfingst also benefited considerably from training in the use of the cases, moreso in fact, than the extent to which he was influenced by any particular substantive ideas, as he already had exposure to the issues. Others, such as Professor Foreman, found the case study method to be very interesting, and have been attempting to include the method as a pedagogical strategy. Professor Coulter noted his continuing and great admiration for Ken Pimple and his ability for making cases real, extracting issues, getting students talking, and presenting a broad perspective on the information.

Professor Logan remarked that while she was already doing analysis in patient care of ethical dilemmas, the TRE workshop provided her with the skills and knowledge to develop a grid that is used with graduate students to analyze cases in ways that allow them to separate what can be agreed upon as fact from opinion. She is doing considerable work with first year students on this issue of fact versus opinion and feels that dilemmas become much more conflicted because people don't separate the two. Her own awareness of her blindness in tacking on an opinion as fact and never questioning assumptions has been significantly increased, an awareness that came out of examining various cases during the workshop, as well as from the small group work. The cold fusion dilemma was particularly important as well as the presentation of the chief research officer from Illinois. She feels that she has gained a general awareness around this issue of the importance to teach students to separate facts that can be agreed upon from opinions that we cast as fact.

One significant impact, perhaps not directly attributable to Professor Walsh's participation in the workshop but certainly related, is his "new found" support of the University's insistence that the College of Education follow the requirements of the Institutional Review Board for working with human subjects. It is Professor Walsh's opinion that the College has been remiss in permitting students to bypass the IRB. Under new requirements, the College demands clearance for the study and necessitates that the student file forms with the IRB. According to Professor Walsh, it has been very helpful to have the College's "thinking" about this formalized so that all faculty must require it of their students. Graduate students have been very receptive to the need and value in filing forms; they understand that the forms protect the subject, themselves, and the university. He hopes that the focus on ethics has a long-term impact on the quality and integrity of research done by his doctoral students who are newly aware of these issues and their place within their large, qualitative studies. Professor Walsh also described benefits from the opportunity to interact with researchers out of his area, suggesting that he learned much from their very different perspectives. He continues to stay in touch with a few participants from the 1994 workshop.

Professor Lytle describes that attention to theory as having the greatest impact on him, while for his students the cases were most useful. He has been able, for example, to incorporate the cases into the general chemistry and graduate chemistry courses to demonstrate that if students use data without putting the methods into print, it constitutes scientific misconduct. Students have come to recognize that the opportunity for abuse and scientific misconduct – even working with mathematics – is enormous. Professor Lytle also indicated that there has been a significant impact on the Global Ethics team beginning with the workshop at Purdue that was conducted by representatives from the Poynter Center. Many of the participants in this early program have continued to stay involved with Indiana University over the years through the workshop. They meet on a regular basis and look to do things like designing the integrated course. Professor Foreman similarly recognized the impact of the workshop on his participation on a university committee — as a substitute reviewer for the

Institutional Review Committee he has become especially concerned with how studies have been unethical in their dealing with gender issues.

5. How has the workshop influenced participants' theoretical approach to teaching, use of new instructional methodology, and general pedagogical skills?

Respondents report advances in teaching effectiveness as a result of exposure to new concepts and teaching approaches during the workshop. Several respondents have employed their new proficiencies in course design and refinement using curricula that are distinguished by the inclusion of ethical theory and new pedagogical strategies for understanding research ethics.

At least four courses in Professor Logan's area have been designed or modified as a result of her increased expertise in the area. First-year students, honors students, and graduate students have benefited the most with courses on research ethics. Professor Logan noted that they have been less successful in adding these kinds of courses to the programs of upperclassmen. In part she attributes this to the fact that these students are incurring such great debts that they simply want to move on to direct patient care and have little time for anything else.

Professor Foreman's own heightened sensitivity to the complexities of ethical issues has enabled him to raise the awareness of his students to these issues (particularly around authorship and giving credit). Also, he is working with other faculty to revise the doctoral program and feels that the content and the methods of the workshop should be expected to play a larger role here than with undergraduates. Part of what they are doing with the doctoral program is to create more opportunities for the students, who are increasingly enrolled part-time, to gain teaching and research experience. As a result, the opportunity for abusive situations is increased and Professor Foreman expects that his training will help him be more sensitive to such potential abuse.

Professor Walsh has been teaching an introductory research course for three or four years but until he participated in the workshop, ethics was not an integral part of the course. Now, ethical issues are addressed with each topic and each class. One area that is a source of continual attention is distinguishing between real ethical issues and the non-issues of "discomfort" associated with doing human subjects research, i.e., not wanting to criticize someone who has assisted you with your research. Such issues he categorizes as a "business of doing research" issue rather than a true ethical issue. This he noted, is an especially problematic area with education faculty who often conduct research in their own "backyards."

Professor Coulter offers a course in the spring to first year doctoral students that runs 6-7 weeks and meets three hours per week. Because these students have already been in the research lab, they can relate to the cases and can resonate somewhat with the issues. He has used the "Teaching the Ethical Conduct of Research" book and the set of case studies, particularly those focusing on conflict of interest and mentoring. Professor Coulter will make a formal presentation and then co-facilitate a two-hour discussion with a geneticist. As an informal experiment to test the course's effectiveness, he gave a case that he had developed (and which was rather complicated with several embedded issues) to students before the first meeting of the class. Students were required to read and analyze the case for ethical issues. At the end of the session he gave the same case in an effort to assess what "migration" had occurred for students. The outcomes he has observed is that students have become sensitized to the issues. The weakness of this experiment, however, was that he did not have a control group that did not take the course to compare to the students in the course. He does feel that the establishment of the requirement of the course and the use of the case approach have had some degree of measurable impact on the way that students view their experiences. Professor Coulter hopes that it will encourage them to continue to pursue and think about these kinds of issues.

Professor Telser described the Integrated Graduate Program, a major component of students first two years of study, as an example of how he has incorporated the information and ideas gained through the TRE workshop in his own practice. Any student who needs a course in research ethics comes to them to participate through the Integrated Graduate Program. The course suits the needs for any NIH training grant and many grants at the Chicago campus have used it to fulfill their requirements. The TRE workshop provided Professor Telser with a framework for how to approach their course with the result that they changed the focus of the course and its schedule as a result of his participation. Previously, the course met once per month on Friday afternoons for a total of nine sessions. Northwestern University experts talked about issues related to data handling, integrity in the lab, conflict of interest, and the use of animals in research. The original plan was for the experts to speak for half the time and then to break into small groups for discussion. This was never effective in stimulating good discussion. Mostly graduate students and some clinical fellows doing research who needed exposure to such training took part. In the second year of the course, some outside experts spoke and a few interesting questions were raised, but the audience still did not become very involved. At the most recent workshop in November, the format was moved entirely to a case study approach. Now, the course meets once per week in the fall semester. It is a required, credit-bearing course that is conducted on a pass/fail basis, and student attendance is good. The curriculum relies fairly heavily on the TRE cases and materials with one theme chosen for each session. Cases are distributed at the session although Professor Telser has also had students write cases with good results.

Professor Coppola feels that, in general, students have become considerably more sensitized to the importance of research ethics through his own heightened awareness. In his course, ethics case studies are implemented in structured undergraduate groups that are led by upper-level undergraduates who are especially sensitive to the issues. One student who was working on a thesis e-mailed him with the message, "Damn you for making me think ethically!"

Several respondents described their use of the case study approach as the most tangible change in their teaching wrought by the workshop. Professor Sugarbaker has used the case study method in his undergraduate seniors seminar to address how scientists can communicate technically and scientifically, as well as to extract ethical methods of research. He has more difficulty envisioning how to incorporate the case method at the graduate level where the mode of teaching is more operational. Professor Hickey also indicated that his ability to use the case study method has been improved. The workshop has had a direct impact on Professor Offenbach's use of the case study method in all of his classes. The approach has been fairly easily incorporated and students respond well, although it does require more work of the professor to develop meaningful discussion around an ethical problem. Professor Offenbach remarked that it "requires special effort to ground a discussion in more than 'I feel...' and to ensure that all ethical issues are extracted." Professor Pfingst's teaching also has changed with the use of the cases. He finds that all levels of students—undergraduate, graduate, post-doctorate— as well as faculty really come alive with the incorporation of the cases.

IMPACT ON COLLEAGUES AND DEPARTMENT

6. Dissemination of the benefits of the TRE workshop beyond participants to departmental and university colleagues

Respondents were roughly evenly divided on the issues of whether or not they had shared ideas from the workshop with their colleagues, and whether those ideas where positively received. Those who had not disseminated the information offered a variety of reasons, including two participants whose non-laboratory specialties render the information less directly applicable to their work. Professor Foreman, for example, has had limited opportunity to share ideas because he does not work in a lab setting and so the information has less relevancy for his immediate colleagues. Historically, however, his colleagues have been sensitive to the complexities of working with human subjects. He feels that it will be interesting to watch what transpires with the ethics surrounding gender issues as more men enter the field of nursing which has traditionally been dominated by women.

Professor Walsh also has not shared his information with his colleagues in any "formal" way. He and his colleagues are required to think about research ethics more regularly because of the University's new requirements of the College of Education for IRB review. Nonetheless, most quantitative research courses (primarily statistics courses) do not deal with ethical issues. Questions of ethics tend to arise more in qualitative or naturalistic inquiry courses. Other respondents have been prohibited from sharing ideas by simple lack of time. Professor Hickey remarked that while the university has a committee on research ethics, the creation of which was primarily stimulated by NIH and NSF regulations and grants and the core of which consists of people who have come to the workshop, all participants are too busy and too isolated to be especially active beyond their committee participation. This is in part why he has not disseminated the ideas that he gained.

In Professor Coulter's experience, faculty in other programs have been sympathetic to his ideas but he has found it difficult to convince people with talents to conduct the program for their own students. He does feel that faculty should be part of the program and has had some faculty who are very dedicated to the issues and are highly involved with the course, stating "Top notch people are interacting informally with students in positive ways." Nonetheless, there is a majority of faculty who do not want to be involved until they see others doing so and are themselves required to justify their lack of involvement. Professor Coulter believes that it will take time for these faculty to "come around" and some may never acknowledge the importance of teaching research ethics. Institutionalizing a program as part of a curriculum is very important for increasing its visibility and ensuring endorsement of the importance of the issues to students and faculty alike. Professor Coulter feels that he has offered the university an effective way to comply with NIH requirements. By offering a course as a requirement and creating students transcripts and attendance reports, he has created a record system that demonstrates to the NIH that the department is following its guidelines in providing this training. This aspect has pleased the vice president of research. It appears that there are many advantages to offering courses like this that make them easier to "sell" to the university community.

Other respondents report disseminating ideas through seminars, lectures and training provided for other faculty. Professor Sugarbaker, for example, has shared information primarily through a lecture for the graduate school faculty. Additionally, he has distributed some information and received some feedback. Dissemination continues to be a concern of Professor Sugarbaker's as he has held a few meetings with the dean and the vice president of research to address how to better spread information about research ethics. There exists a small group of the faculty, between 50 and 75, who appear to be interested and of whom half are already involved. It is far more difficult, however, to disseminate the information to the remainder of the faculty. Professor Sugarbaker suggests that a more continuous presentation of the ideas through more lectures could be helpful.

Professor Coppola has shared ideas with his colleagues in the context of development of the new course and in his role on the curriculum committee. In particular, his colleague who is working with him on the development of the new course has made changes in her own courses as a result of exposure to the ideas and information that he has shared. His efforts to share information have generally met with a very positive response. Similarly, Professor McBurney's most direct relationship is with a colleague who attended the same TRE workshop and who has worked with him on the design of the new course, the development of the syllabus, and securing funding. Additionally, there is a cadre of people who have graduated from the workshop who see themselves as a resource for others.

At Professor Logan's university, they are developing a course to satisfy institutional ethics requirements. She wanted to train the facilitators and did so by discussing cases and creating an analysis form which allowed them to examine a dilemma in a structured way by considering the people involved, possible options, and the principles guiding the various options. Professor Logan has received a mixed response from her colleagues. Some have been very open and receptive while others have been less so. She attributes this reluctance to the continual pressures on faculty to always "have the right answer." As a result, they are not comfortable expressing confusion or lack of certainty, which is often the answer the ethical dilemmas. Time is also a concern according to Professor Logan. Faculty guard their time very carefully against any imposition that they perceive as extraneous to their own narrow academic focus.

Professor Offenbach has employed several means of disseminating information. He has offered colloquia to faculty, who represent all ranks and disciplines in the psychology department, and graduate students, and has sent information to various people. Always available to answer questions, Professor Offenbach has also given talks in the audiology and speech departments and to a computer department in Indianapolis. The response to his efforts has been mixed – very good by those who are interested and generally ignored by those who are not. For Professor Clark, his department has been generally unreceptive to his efforts to introduce new ideas about teaching ethics with one or two senior faculty protesting with the familiar argument of "whose ethics are you going to teach?"

Some years ago, the neuroscience program at the University of Michigan became interested in teaching research ethics and sent Professor Pfingst to Pittsburgh to learn about their program. Although they originally discussed developing a course of "survival skills," the neuroscience program has been slow in responding. There is some resistance on the part of one program administrator whose attitude stems from not understanding what teaching research ethics is all about. This individual feels that it is not possible to "teach ethics," that this is the role of the parent and students will come to school already ethical or not. The committee, however, views the issues more as questions related to research standards and a body of ideas that students would not have had occasion to learn in any other setting. The department may also have relied upon the committee to provide training for its students which could have slowed its own efforts.

Professor Telser has considered the issue of information dissemination across disciplines at length. Although he has been chair of the Integrated Graduate Program, into which all life sciences are folded for six years, he does not have a lot of opportunity for interacting with other faculty around these issues and so does not have much chance to influence his colleagues. He would like to invite faculty from the law school to meet with his students. One approach he is considering is to ask these faculty to present 20-30 minutes of didactic materials over a few meetings in order to introduce students to the philosophical background of the most pressing ethical issues. Those faculty who have been working on the Integrated Program with him do appreciate the new case study approach and a few interested faculty have come to talk with him about it. Faculty have not resisted having their students exposed to these ideas, and Professor Telser believes that they are well aware of the importance of training in the issues. There is not, however, much broad "proselytizing" in part because there is no good forum for discussing the topic broadly with other faculty, a situation which appears equally limiting for other past workshop participants.

7. Has an individual's participation in the workshop resulted in any significant changes either at the departmental level or within the faculty member's professional roles and responsibilities?

Although a few respondents, such as Professor Sugarbaker and Offenbach, report that no significant departmental changes have taken place, several other respondents described outcomes related to the design and delivery of new courses or the refinement of existing courses as the most noteworthy departmental change to result from their participation in the workshop.

Prior to participating in the workshop, Professor Hickey was already teaching an ethics course. Since the workshop, the number of students in the course has expanded such that the course is no longer viewed by the department as a "boutique" course. While it is not a required course, it does fulfill a programmatic requirement. Professor Hickey feels that the departmental administration is newly recognizing the value of the course as a result of the heightened student interest. This is especially important as the department moves to value-centered management and student hours as measures of productivity. Additionally, the popularity of this course has caught the attention of other faculty who may be seeking a "teaching" niche. Recently his department has absorbed another department and he feels that should he take a leave of absence there would probably be another faculty member who would be willing to teach the ethics course. Professor Pfingst's "Research Responsibility Curriculum" has been directly influenced by his own and his colleagues' TRE workshop participation. Session leaders are Poynter Center workshop alumni primarily with a few outside faculty pulled in based on their expertise. Theoretically, training grant directors can require trainees to attend, but this is not a strict requirement and student participation will depend on the individual director. Next year students will have the option of taking the course for one credit with those students who take the credit option having more rigorous requirements placed on them. Professor Coppola also identified the proposal and acceptance of the new course for January 1997 as the most significant change.

Some faculty have assumed new roles within their departments or the university, most commonly as lecturers on ethical issues or committee participants. Professor Lytle, for example, now delivers a one-hour lecture to incoming graduate students on "Professional Conduct." His interest in delivering this lecture is a direct result of his workshop participation. Professor Sugarbaker has participated on presentation panels. Has recently ended his term on the committee and has not been put on any others. He admits that he his not pursuing the reputation of "guru" of research ethics, perhaps because of limited time to devote. Professor Offenbach had started an applied ethics group years ago when the Poynter Center came and worked with them. This group holds a monthly brown bag ethics discussion which often includes topics of research ethics as their discussion focus. He also produces an irregularly published newsletter that goes to about 50 people and which includes calendars of meetings and talks focused on ethics. Finally, he also is working with professional staff to deliver a series of workshops next fall that will focus on ethics. He has become recognized as an "informal guru" on the subject, a reputation which in contrast to Professor Sugarbaker he does not seem to mind, and if the grant is accepted, he will become the Director of Applied Ethics.

Other faculty, such as Professor Logan, note the existence of numerous new roles and responsibilities that are open to her across her university and department. Scarcity of time and other pressing priorities, however, limit her capacity to pursue these.

Respondents were asked whether other non-CIC schools had sought them as references on the teaching of research ethics. All responded that they had not.

IMPACT ON STUDENTS

8. What changes have alumni observed in their students as a result of the use of new ideas or teaching methods?

All faculty have observed some level of difference in their students as a result of exposure to new ideas and teaching strategies. While for a few respondents these differences were observed as actual behavioral changes, for the majority, the changes consisted primarily of heightened student awareness and new-found interest in ethical issues.

Professor Logan is one respondent who has evidence that her students have benefited in a very tangible way from her training in research ethics. She has observed that her students are performing better on the national boards. She feels that they have gained an understanding of the difference between having a sense of personal honesty and the truth, the latter which may be uncomfortable. In many ways, the questions on the boards are supposed to be able to tease out the principles behind such concepts as "informed consent" and her students can now do this with some level of competence as a result of their training in the new courses. It had become very clear to her that without any focused instruction, students don't look at dilemmas with a "fine enough eye." She also believes that participation in the workshop has improved her own teaching skills and as a result, students have become better learners.

Professor Walsh's students can also be observed acting differently as a result of the new emphasis on research ethics that he brings to his introductory educational research course. He believes that students have benefited both from his increased expertise in research ethics, as well as from the University's insistence that the College establish and follow a consistent policy for working with human subjects. In the introductory course when they focus on ethics, students learn how to work with the IRB and how to complete the necessary forms. Previously, a strong tradition of faculty autonomy meant that faculty maintained different standards for dealing with human subjects. Professor Walsh noted that faculty autonomy can be very oppressive for graduate students. Some faculty did not see the need for standards, which was difficult for their graduate students, who often were required, against their own better judgment, to follow the faculty's wishes. Now all faculty are required to follow the standards of the IRB, and students are benefiting from the consistent message.

Many more respondents have witnessed intellectual rather than specific behavioral changes among their students. Professor McBurney, for example, has observed that students are much more sensitized to the issues of ethics. On several occasions, students have communicated their increased interest in ethical issues on the course evaluations. According to Professor Hickey, the increased enrollment in his course suggests that student interest in the study of research ethics is very high. Students have the opportunity to review the previous semester's evaluations of the course prior to enrolling and these have been very positive. Professor Sugarbaker recounted interesting discussions that he has had with students which included students raising good questions for debate. He hopes that their thinking continues to progress along these lines as a result of his efforts. Similarly, Professor Offenbach noted that students are thinking about issues that they previously had not considered in any scientific or theoretical way, although the department is itself free of many ethical difficulties. Students presence at the colloquia is additional evidence of their interest.

Students have verbally expressed their interest in the ideas and information to Professor Coppola. Additionally, as plans for his undergraduate courses have become known to graduate students, they have requested that faculty focus attention at the graduate level on similar issues. And, although students are expected to attend Professor Coulter's course and it consists of training that they did not realize they would receive, all are highly receptive. Appearance by faculty at lectures help to demonstrate the that university cares about taking this information seriously. Professor Foreman has also observed more open discussions about authorship and credit allocation taking place with and among his students. Professor Pfingst has been pleased that some neuroscience students have shown increased interest in the issues and, in fact, have become involved in teaching the information themselves. The great weakness which plagues the program and his own teaching, however, is an inability to evaluate the effectiveness of the training. He does not have any way of assessing whether the students' behavior in the lab after they leave his course has been positively influenced by the training.

Professor Lytle feels that students have matured through their participation in the interdisciplinary course. Students in the course, who tend to be juniors and seniors, are initially very rigid and unwilling to accept ambiguity. At the end of the course they are more accepting of the ambiguity of issues as demonstrated through the application of ethics to scientific and engineering problems. The success of this course and its popularity with students is evidenced by the fact that this course was never published in the course catalogue because it filled too quickly. Additionally, a minimum of eight faculty came to each lecture and stayed after class to continue the debates.

9. What ideas or methods have been most effective with students?

Although few alumni have systematically assessed the impact of their new teaching strategies on their students' orientation to research ethics, several conclusively identified specific tools and ideas from the workshop as appearing to be effective. Most often cited by respondents was the case study approach. Alumni offered numerous descriptions of how they have utilized this approach in their teaching.

Professor Lytle, for example, noted that students responded very well to the cases. He primarily uses those from the Purdue-based training session, rather than those from the TRE workshop, as they are less scientifically organized. Faculty at his university have also used cases from their own experience. Professor Sugarbaker indicated that he had thought about ethics prior to attending the workshop and had tried to lecture on research ethics but this approach "fell flat" with students. The case study approach worked much better for generating student engagement. Professor Offenbach feels that the case study method has been most successful with graduate students. Authorship tends to be the question that comes up most often with graduate students as it affects them most readily, i.e., students have professors requiring author credit and in situations where the students does not feel that it is due to them. Professor Hickey also identified the case study approach as especially effective with students.

Professor Pfingst has drawn his cases from a variety of sources including the Poynter Center cases and the AAMC workbook. He has encountered some problems with the teaching of the course in that the students and faculty represent such a diverse group that it is difficult to address the issues that are particular to any one population adequately, even using the case study approach. Moreover, it is difficult to ensure that the program is structured to provide tools and ideas that all participants can apply to their own areas. The group struggled during the first year with making the curriculum relevant to such a large and diverse audience.

While the case study approach appears to be very popular with workshop alumni, the method is not without its limitations, some of which were noted by respondents. For Professor Logan, for example, the case discussions have proven most effective although she sees need for other methods and techniques in addition to lecture and case analysis. In her professionalism class she has used many "tidbits" of experiential learning including more analysis of cases and an evaluation scheme in which students analyzed cases in one pen color and added new thinking in another. Professor Coppola agrees that case study analysis and practice writing cases has been most valuable for students, although he has not found the cases provided during the TRE workshop to be especially relevant for his students. Instead he has used a text entitled "The Ethical Chemist" by Jerry Kovack of the University of Tennessee which is focused at the undergraduate level.

Professor Walsh has found case study discussions combined with role playing to be most useful with students. He does have concerns about the cases, however, in that they tend to reduce structural ethical issues to individual ethical issues. Professor Walsh has observed that by focusing on people in certain situations the cases ignored structural issues. "In reality," he suggests, "the way universities and labs are run today, there are tremendous pressures on doctoral students to take short cuts that they might personally never consider." To counteract this, Professor Walsh ensures that his discussions of ethical dilemmas never lose sight of the underlying structural issues. He focuses both on individuals making individual decisions and on institutional ethics, i.e., how do you maintain personal ethics in the larger university context. He feels that it is critical to always come back to the larger issue. Frequent group discussions about issues in students' own areas tend to be helpful for others to apply to their own problems.

According to Professor Telser, students respond well to the case approach although he has observed that they do become somewhat tired or impatient because there is a certain amount of repetition in the issues. He states, "They're really just different parts of the elephant with a few critical issues that can be addressed from different perspectives." Interestingly, he has observed that some foreign students will not engage in the issues at all, through the case study approach or through other methods.

Other faculty, such as Professor McBurney have considered using the case approach but have decided against it because of time limitations. Instead, Professor McBurney made a video on the subject which students then discuss.

NEED FOR CONTINUING EDUCATION

10. Satisfaction of alumni with their current level of expertise in the teaching of research ethics

Respondents were very divided on their level of satisfaction with their current expertise on the subject matter. When faculty indicated dissatisfaction with their present level of expertise, most were able to identify specific areas of content or pedagogy where they feel lacking. Alumni who work with human subjects were especially vocal on this question.

Professor Foreman, for example, would like more focused training on a two primary issues: 1) the ethics of recruiting and maintaining human subjects; and 2) the difficulties of dealing with human subjects who are to some degree sick and for whom the researcher may also be the caregiver, confounding the roles of researcher and caregiver. On the latter issue, the concern is with being sensitive to elements of coercion because the researcher is invested in his or her work. Related issues of interest affecting subject participation include the need for honesty when presenting the terms of participation and especially when participants are being recruited for longitudinal studies. Also, there are complex issues concerning subjects who fall into the category of incompetent, as well as questions of who has proxy to provide consent when the subject is no longer competent. Professor Walsh indicated that he would benefit from more information and training in the ethics of conducting research in the humanities and social sciences. His greatest difficulty in pursuing continuing education on his own is in finding information that is not focused on the bench sciences.

For one respondent, perceptions about limited expertise has curtailed utilization of the ideas and information from the workshop. Professor Lytle's dissatisfaction with his content knowledge has prevented him from developing and offering his own course. At this time, he would not offer a course as the sole faculty leader as he believes he is lacking in the theoretical and philosophical basis of ethics that someone like John Palmeroy would bring to the discussion.

Other faculty, such as Professors Logan and McBurney, stated without hesitating that they are not satisfied and that they would benefit from additional training, with Professor McBurney responding, "Education never ends and the topic is murky enough. Additionally, the media is latching on as federal requirements are increasing." Professor Offenbach is similarly dissatisfied. He recently took a semester sabbatical and everything that he read during it was about research ethics and applied ethics. He feels that the literature on research ethics is lacking, and that it tends to be very discipline-specific. The broadest resource that he has found has come out of the Poynter Center, and he plans to use this book with an undergraduate course that he hopes to teach in the fall assuming that it meets enrollment requirements. He is not sure, however, how he will use this book although it is listed for the course.

Some faculty were either comfortable with their training and ability to use the information gained from the workshop, or felt that their expertise, although probably incomplete, was on a level with what the field was producing. Professor Hickey, for example, is satisfied "temporarily." After two or three years, he expects that his teaching may require an "overhaul." Similarly, Professor Telser could not identify any immediate needs for continuing education. Professor Coppola is generally satisfied with his present level of expertise and the work that he is doing to develop the new course, primarily because, as he stated, "they were starting from ground zero." But he is dissatisfied generally with the amount of attention paid to the teaching of research ethics at the undergraduate level. Although chemists were well represented at the TRE workshop that he attended, he was the only participant who worked with undergraduates.

Professor Pfingst feels that he has received good input and training and that his deficiencies mirror the deficiences in the field as a whole. When he first began working in the area, he felt that he might be weak in the topics of ethics and moral reasoning but this has not turned out to be a problem in his teaching because he is mostly examining policies and standards.

11. Effectiveness of the Poynter Center's tools for maintaining supportive networks over time

- *Trends*, the TRE newsletter
- POYNTER_TRE, the e-mail distribution list
- the TRE web page
- the "alumni reunions" at the annual research ethics seminar

All respondents were aware of the existence of the *Trends* newsletter, the e-mail distribution list, and the alumni reunions, and several indicated that they used these to varying levels as sources or reminders about the issues of teaching research ethics and the activities of others in this area. Faculty were especially complimentary of *Trends*.

Professor Walsh, for example, has very much appreciated the Poynter Center's staying in touch through *Trends* and the e-mail updates, and would very much like to see the publication of *Trends* continue in the future. Professor Lytle really enjoys *Trends*, noting the recent David Goodstein article as the "most fantastic thing" he has read recently. He mentioned that he had recently received a peer-reviewed paper and agreed with the article's thesis that peer-review is becoming too personal. He reads the e-mail faithfully and finds its messages of direct interest about 1 out of every 20 offerings. Professor Pfingst also finds *Trends* very useful and the lead article especially interesting. E-mail provides another good method of communicating although he admits that he probably deletes half after only a cursory reading. Professor Pfingst is also on the NSF e-mail list and feels that its offerings are mostly worthless.

Professors Sugarbaker and Telser have appreciated *Trends* and the e-mail list. Professor Telser also consults ORI reports to determine how various issues have been resolved. Professor Offenbach reads *Trends* as soon as he receives it and also reads the e-mails which frequently contain useful scheduling information for his own distribution list. For Professor Coppola, *Trends* and the e-mail messages are a useful reminder and an effective tool for spurring new ideas of his own. He describes them as "intellectually useful as well as a good mechanism" for keeping him connected to others who are interested in research ethics.

Several respondents, including Professors Hickey and McBurney, indicated that they like *Trends* and the e-mail updates and feel that they are a good source of information, but are already overwhelmed with paper and electronic messages and cannot devote much time to reviewing their contents. Similarly, Professor Coulter finds *Trends* and the e-mail updates to be excellent resources and only wishes he had more time to respond. Professor Logan occasionally glances at *Trends* for items of interest, but admits that she really has not kept in regular contact with others who are interested in these issues. She attributes this to the fact that faculty like herself are isolated and rewarded by the university for maintaining a narrow focus. She does believe that *Trends* and the e-mail distributions are good tools if for no other reason than to remind her of the TRE workshop and what she learned and gained from it. Professor Foreman acknowledges receiving the *Trends* newsletter but he does not give it much attention. He stated that he does not receive the e-mail updates, and didn't believe that the Poynter Center staff had his e-mail address because he did not have one when he participated in the workshop (mdforemn@uic.edu).

No respondent indicated that he or she used the Poynter Center's World Wide Web site. Several alumni noted that they were not even aware of its existence, although one, Professor Walsh stated that he would immediately add it to his list of favorite Web pages. Professors Foreman, Sugarbaker, and Pfingst were among those who have not yet explored the Web site but did not offer explanations as to why they had not. Professor Offenbach's reluctance to use the Web page appears to be less a reflection of any dissatisfaction with the page than a personal statement about the Web in general which he finds to be too addictive and time-consuming. Similarly, Professor Hickey's lack of attention to the page is in part a general reaction to the overwhelming amount of information on the Web which he believes renders it inconvenient for regular review.

12. Departmental and/or university support for continuing education in the area of teaching research ethics for faculty

Most respondents connected the issue of departmental and/or university support for continuing education in teaching research ethics to the provision of funds for such education. Each indicated that the university's sponsorship of their attendance at the TRE workshop was some indication of the university's belief in the value of training in these issues. Some felt that the university's encouragement for the development of new courses focused on research ethics and the provision of resources for these courses was additional evidence of university support, Professor Coppola's university, for example, has supported the development of his new course which is expected to attract 60-80 junior-level students. Professor McBurney's university has demonstrated its support for teaching research ethics by providing the funding for his course. Similarly, Professor Offenbach's department has supported his participation in the past with funding and time.

Few, however, could state with any certainty that continued financial support for faculty training was forthcoming or that a broad-based "movement" to encourage or require all faculty to explore these issues was an administrative focus. Professor Offenbach cannot anticipate whether his department will continue to support his training in the future. And although the university supported Professor Foreman's attendance at the TRE workshop, he does not have a sense for it or the department's general support of further education in this area. There has also been a change in administration since his workshop participation, which further separates him from true understanding of the university's current perspective. He does feel that an associate dean, who has broader responsibilities over research and greater exposure to the variety of issues addressed and who is in more of a position to effect change, probably should have been the participant from his institution. Professor Logan also believes that her university supports her continuing education in this area, but, she notes, there is no money earmarked for it and any involvement she pursues with committees or individuals interested in the topic will be at her own initiative. Professor Hickey believes that the university would support participation in additional continuing education but that his department might not for lack of funds and time.

As discussed previously, Professor Walsh has observed that the College of Education is being required to pay more attention to issues of research ethics by the University now. He cannot speak, however, to the level of response by individual departments within the College to the University's requirements. If the poor attendance at an ethics conference sponsored by the College of Commerce is any indication, however, broad interest across his University may be lacking. Without the students that he brought to this conference, there would have been only about four people in the audience.

Professor Clark termed the support exhibited by his university as "emotional support," meaning support void of any visible action beyond the effort of sending participants to the TRE workshop. To date, no faculty member or administrator has taken a special lead in focusing on the teaching of research ethics for the university. It is unclear to him why the university would prefer a departmental focus rather than a university-wide focus.

Only Professor Pfingst could indicate with any degree of certainty that the university will continue to support training in this area with funds. The office of the vice president of research already has expressed willingness to continue.

13. Barriers to a broader discussion of and interest in teaching research ethics

Several respondents readily identified what appear to be significant barriers to a broader discussion of and attention to teaching research ethics. These barriers exist at both the individual faculty level and at the institutional, departmental, and even national, level.

Professor Lytle believes that the greatest barrier is that too few people are interested in research ethics and are willing to devote time and attention to it. As a result, those who are interested are overwhelmed. He receives calls from the vice president for academic affairs at least once per month for guidance. Also, because of the way in which the profession is structured, he spends 75% of his time seeking funding and he cannot afford to do "anything for free" anymore. Professor Sugarbaker similarly points to faculty "overload" as the greatest barrier to better involvement in the study and teaching of research ethics. He feels that "faculty in the trenches are too busy to think about how to engage other faculty in any organized way." As a result, they rely upon the administrators to "spread the word," which does not occur.

While Professor Coulter observes that some faculty are becoming more interested and committed to teaching about research ethics, he feels that there remains a need to address the rest of the university infrastructure — the administration, other faculty, and the institutional environment — that fosters or thwarts good ethical behavior. For example, rewarding number of publications over quality of publications represents an ethical issue of the institutional environment. Additionally, as fiscal pressures increase and institutions demand that faculty become entrepreneurs and raise their own research dollars, they can expect to encounter greater difficulties with conflict of interest. There are procedures and policies that are embedded in the culture of the institution that contribute to ethical dilemmas for faculty and students. Institutions are sending mixed messages and many of their actions appear at cross purposes. In his work with the national organization, Professor Coulter's committee is continuing to look at a new definition of misconduct. He feels that the national landscape changed somewhat with the election of the Republican Congress when some Congressmen, who really cared about the issues and who provided the driving force for their examination, lost their seats. He does feel, however, that enough activity still exists to sustain a national focus on ethics.

According to Professor Offenbach, the most significant barrier to greater participation by individual faculty members is general disinterest, with some faculty feeling that the issues are boring or unrelated to their work. At the university level there is also the problem of securing a commitment that is backed by funding. Recently, the university president has secured money for a distinguished chair in applied ethics, for which they are now recruiting. This interdisciplinary position will reside in the philosophy department, a situation which Professor Offenbach feels has its pros and cons. He hopes that this person will also be interested in research ethics. There is also the issue of how those in the sciences who are interested in research ethics relate to department of philosophy. At present, relations with philosophy are cordial at best. Professor Offenbach's perception is that philosophers often feel that issues of ethics should be taught only by philosophers.

Professor Coppola's experience with designing a research ethics course is indicative of the lukewarm response many alumni have received. The initial reviews of the proposal for his course did not come back all positive, and in fact, there was not a unanimous vote to proceed with the class. The response of some faculty was that research ethics should be taught in the context of all of their classes and that a special course was not needed. As a result, they have proposed the course both as a "capstone" course and as a program which could be integrated into other courses. Professor Coppola feels that they are battling traditional faculty attitudes. It is not that anyone feels that the student of research ethics is unimportant, rather the business of awarding it formal standing is difficult to accept.

Similarly, Professor Pfingst has observed that there are faculty and administrators who do not see the need for formal training in research ethics. He conducted a symposium at a national meeting and learned from one evaluation question that many of the audience members felt that these issues cannot be taught. The time factor is also a deterrent for many faculty who are reluctant to release their students to such "non-essential" training. The university committee has chosen to respond to reluctant faculty by suggesting that they meet with their students and determine which forums would best meet their training needs.

For Professor Walsh, the only barrier that he perceives is a lack of scholarship and information focused on ethics in social sciences research. Professor Foreman did not describe any barriers to a broader discussion and emphasized that he does not think that those in the academic community can talk about these issues enough, particularly in the area of human subjects research. As demands upon researchers grow and funds are decreased, he sees the field headed in a direction for heightened risk for unethical behavior. He states from his own experience, "Not that people plan to be unethical, but when working with sick people who are hard to get to participate and to stay involved with a study, it is easy to cross the line."

14. Recommendations by alumni of opportunities for the Poynter Center to assist with continued professional development in the teaching of research ethics

Alumni offered numerous suggestions regarding the form and substance of the continuing education that would be valuable to them, some of which may present opportunities for the Poynter Center to continue to serve these alumni in the future. While their responses were quite varied, only one participant indicated that a second week-long workshop would be either feasible or desirable. Most recommendations revolved around the acquisition of additional knowledge in specific content areas with alumni noting where they felt the TRE workshop had not gone deeply enough into an issue or topic.

Most useful to Professor Foreman, for example, would be training that focuses on the ethics of dealing with human subjects that is more active than reading materials but is not necessarily a program lasting a week in length. Teleconferencing may offer one option that is less time- and cost-intensive. Professor Foreman already networks regularly with colleagues who are dealing with the same kinds of issues. This networking is not a result of the TRE workshop. Professor Walsh encouraged the Poynter Center to explore teaching research ethics in the social sciences in much greater depth. Professor McBurney also feels that there are several issues that have not been addressed including ownership of research data, data access and stewardship as it affects faculty and graduate students. This, he notes, is becoming a very complex issue that was not dealt with sufficiently at the TRE workshop and which he feels should be on the agenda of the Poynter Center. Regarding the format of a conference to address these topics, he does not believe that CIC will again fund a week-long program. Participants may be willing to pay for a program of one to three days if the quality and relevance remains high. He also recommends drawing beyond the CIC for participants and looking for organizations that will subsidize tuition.

Professor Logan wants a session that looks in much greater detail and more carefully at conflict of interest. As she encounters it, conflict of interest is examined both in monetary terms and also in much broader ways causing much confusion and inconsistencies. For example, her IRB has ruled that if you sit on the committee of a student whose proposal is being reviewed you must excuse yourself. But at the same time, the university is not worried about blending industrial monies, which are always connected to a product and a bottom line, with federal monies that reward openness in science and sharing with colleagues. Because of the lack of a clear policy, proposals are reviewed on an individual basis to different outcomes. She offered the example of the conflict between studying vulnerable populations, which the federal government is pushing, and studying "normal" populations, which the IRB is concerned with. She does feel that it would be beneficial to meet on a regular basis with other TRE workshop alumni to share how they are approaching such issues.

Professor Hickey suggested that a "re-tooling workshop" of one or two days might prove effective, although justifying the long drive to Bloomington for such a short period of time could be difficult. Bringing alumni together after five years to share their experiences might be especially enlightening, although again one week is too long for the workshop. Content-wise he suggests using fewer examples from the bench sciences. Active networking would be useful although he recognizes that it is very difficult to stimulate this among busy faculty. He has exchanged information with some other workshop participants. A newsletter with annotated reviews of new literature would be very helpful.

For Professor Coulter, a much broader context of cases would be beneficial to both him and his students. More work on the development of different cases is needed although he feels that topics such as mentoring and authorship are generic to all sciences. Additionally, he would like a more organized way of presenting the information than Kenneth Pimple presented during the workshop. He felt the need to come away with "more than what was in their heads and in the cases." He would like a template for teaching such things as "what is ethics?," "what is the history of ethical thinking?," and "what is the difference between morals and ethics?" Professor Coulter wants a theoretical context that will increase his comfort with presenting an overview of ethics. International graduates students who have major cultural differences would especially benefit such from a contextual overview. He states, "These students would never think of questioning what a professor would say. The cases alone are effective for increasing awareness of the issues, but students are not prepared to talk about them in any systemic way." He does keep in touch with another workshop participant, Professor Logan, and he believes that she is active in her college although the institution as a whole has not recognized her talents.

Professor Coppola would be interested in another workshop if its sole focus was on the teaching of research ethics to undergraduates, an area which he feels has been neglected in the literature and which did not receive much attention during the TRE workshop. It is his sense that he was the only person at his workshop who was interested in application of these ideas and information to undergraduates. If the Poynter Center could become the "lightening rod" for undergraduate science ethics, he would find it very valuable and he would continue to support it heavily. He added that timing of a workshop in late June is good for him. Additionally, as soon as he begins planning his new course he expects that he will have resource needs, although he cannot anticipate specifically what they will be at this time. Professor Clark also identified a follow-up workshop as potentially useful although he would structure this as a quick weekend retreat. His greatest limitation is time to devote to travel although he does like the idea of regional workshops and believes that TRE alumni could be relied upon to serve as resources.

Some alumni were more ambivalent regarding continuing education and the role that they anticipated that the Poynter Center could play for them. Professor Lytle, for example, feels the need for better and more formal training but does not know where his schedule will allow the time to pursue it. He would not attend another Indiana University-based Poynter Center workshop both because of the lengthy time commitment and the travel involved, and because he wants more interdisciplinary training. He would like the Poynter Center to continue sending information, and noted that while he may not always respond, he is "always paying attention." Professor Telser does not know whether there is another continuing education activity that would be worthwhile for him. He does view the Poynter Center as a resource and is comfortable asking questions of them. Over recent years he has observed more and more literature becoming available where nothing previously existed and anticipates that in a few years there may be a way to approach these issues effectively over the Internet. He also feels that it "may be worthwhile to get people together to focus on the best of what's available and what has been learned."

Professor Pfingst is unclear as to the best mechanism for enhancing his expertise. Having developed a course for residents in ethics that used a philosopher for some of the global context of ethics, he is interested in involving a social scientist who can discuss moral behavior, sociology, and psychology. He feels that he would benefit from some in-depth training in moral reasoning and behavior modification and would consider participating in a week-long workshop on these issues. Additionally, he is very interested in finding tools for evaluating the effectiveness of the teaching that they are offering to students, i.e., is there a change in actual student behavior? This area, the development of good evaluation measures, is the most neglected in the field. He knows of no controlled way of evaluating the impact of the cases on changing actual student behavior and feels that the Poynter Center's efforts to address this issue during the TRE workshop were inadequate.

Other alumni, such as Professor Sugarbaker, are less concerned with their own continuing education needs, than with the needs of their "unconverted" colleagues. The kind of information he desires would address how to convince his colleagues to "get on the bandwagon." He needs assistance in identifying effective ways of spreading the message. Additionally, he would benefit from resources such as individuals who he can invite to his campus to lecture in an exciting way on the importance of teaching research ethics. As Professor Sugarbaker states, a valuable resource for him would be "someone who has a pitch and who can say I've done it and it would be a worthwhile thing for you to consider." He is not comfortable making this pitch himself. He would not gain much from another week on case studies, although it might be useful to have someone come to his university to work with faculty on the issues as well as to encourage other faculty to take an interest.

Professor Offenbach would welcome an ongoing electronic networking that focused on case study discussions. He does attend meetings of the Association of Practical and Professional Ethics and last year tried, albeit unsuccessfully, to organize other workshop alumni to offer a case presentation. He will attempt this again for next year. He also suggested that the Poynter Center organize a meeting every few years of alumni so that they can share and update each other on their progress. Additionally, it would be very useful to have money available for sabbatical fellowships for a few faculty to come to Bloomington to work together for a month or so. He does not agree that faculty don't have a week to devote to the study of these issues. He suggests that if three or four faculty were on sabbatical for a month in the summer they could deal with some significant projects, e.g., develop cases, write responses to the Commission on Research Integrity's proposals. Such a sabbatical experience would provide an opportunity to accomplish some really substantive work that would have enormous value for all faculty concerned with research ethics.

Conclusion and Recommendations

While not the focus of this evaluation report per se, it should be noted that all respondents spoke very positively and enthusiastically about their overall experiences at the TRE workshop. Even today, one and two years after they attended the workshops, participants remarked on the high quality presentations, the competent organization of the program, and the rich and stimulating exchange with program faculty and other participants. Several asked that these sentiments be passed along to workshop directors and staff.

More important for this evaluation, however, was the fact that all alumni could point to some way in which the workshop had benefited them in their long-term personal or professional development. Upon review of the draft evaluation report, a program director remarked that he was especially surprised by the positive responses of three participants, Professors Foreman, Hickey, and Coulter, whose on-site behavior and lack of follow-up responses suggested that they had found little of value in the program. Professor Foreman, for example, had been the most unresponsive participant during the 1994 workshop, and the Poynter Center had not heard from him since then. Professor Hickey was described as "fairly taciturn" during the workshop, once questioning why the curriculum focused so extensively on cases when participants had already grasped their intricacies, and moreover, when cases tended to bore students. Professor Coulter, an active alumnus in his first year following the workshop, simply had not contacted the Poynter Center in some time. These alumni's responses to the evaluation suggest that poor first impressions regarding the influence of the workshop on their thinking and practice were misleading — during the evaluation interviews, all three described noteworthy changes in their orientation to the teaching of research ethics that they traced directly to their workshop participation.

From among all respondents, the vast majority could identify concrete ways in which the information and ideas gained during the workshop had benefited others, including students, their colleagues, and their departments or universities. All respondents when asked whether the workshop had lasting value for their teaching, their ability to influence students to think "ethically," and their own personal orientation to research ethics, answered affirmatively. Several participants described themselves as more skilled, competent, and insightful teachers as a result of the new concepts and pedagogical strategies at their disposal. Other alumni focused on a heightened "intellectual awareness" and sensitivity to issues previously encountered in research and practice, but for which subtle nuances and complexities were not formerly understood. With many respondents, it was immediately apparent that the workshop had sparked what may have already become an enduring personal and professional interest.

It was also apparent that with the exception of other TRE workshop alumni, few faculty at these CIC institutions are addressing issues of teaching research ethics in any focused or systematic way. Most of the respondents interviewed for this evaluation reported working on these issues in relative isolation from their peers. So, while workshop alumni have been affected significantly, the influence of the workshop's teachings have for the most part been limited to the individual participant and his or her students who may have benefited by the alumni's increased skills and expertise. (And here, the impact on student behavior remains untested with evidence limited to faculty perception of student interest and engagement in the issues.) This suggests, as many of the respondents observed, that a culture continues to exist among scientists, departments, universities, and the field at large, that either disregards or diminishes the importance of formal attention to teaching research ethics.

It suggests also that there remains fertile opportunity for the Poynter Center to continue the good work that it has begun in this area. Several recommendations are offered for consideration:

- Continue to maintain contact with TRE workshop alumni through such mechanisms as the *Trends* newsletter and the e-mail distribution list. All alumni indicated an interest in remaining connected to the Poynter Center in some way. These alumni may prove valuable to the development of regional workshops at other CIC campuses.

- Develop an expertise in the teaching of research ethics in the social sciences to complement existing expertise in the bench sciences. At minimum, if social scientists are included as participants in future workshops, ensure that some resources, including cases, are more relevant to their issues.

- Provide future workshop participants with strategies for communicating ideas and information from the workshop to their colleagues, i.e., a "pitch" for engaging others in the teaching of research ethics.

- Continue to identify and discuss during workshops and in follow-up communications (via *Trends* or e-mail messages) methods for assessing the impact of the study of research ethics on the behavior of students. Several participants identified this as the weakest part of their workshop experience and one which continues to limit their ability to measure the effectiveness of their own teaching.

PRELIMINARY ISSUES FOR
TRE WORKSHOP ALUMNI EVALUATION
Spring 1996

1. Has the Teaching Research Ethics workshop had a lasting impact on participants' thinking and practice?
2. Has the workshop influenced participants to effect changes in their colleagues' and departments' orientation toward research ethics?
3. Is the training of graduate students different as a result of a faculty member's participation in the workshop?
4. Do workshop participants have need for further professional development in the area of teaching research ethics and what forms should this continuing education take?

Interview Questions for Alumni of Teaching Research Ethics Workshop
Spring 1996

Impact on Workshop Participant

1. How has your thinking about research ethics changed as a result of the workshop?
2. What are your goals for using the information and ideas gained through the workshop?
3. With what level of ease or difficulty have you implemented ideas and information gained through the TRE workshop?
4. What ideas or information from the workshop have you found to have the greatest lasting value?
5. How has your teaching changed as a result of your participation in the TRE workshop?

Impact on Colleagues and Department

1. Have you shared ideas from the workshop with your colleagues? In what ways?
2. What has been the response to your efforts to disseminate new ideas?
3. Describe any significant changes that have taken place within your department.
4. Have you assumed any new roles within your department or university as a result of your TRE training?
5. Have other non-CIC schools sought you out as a reference?

Impact on Students

1. What changes have you observed in your students as a result of your use of new ideas or methods in your teaching?
2. What ideas or methods have been most effective with your students?

Need for Continuing Education

1. Are you satisfied with your current level of expertise in the teaching of research ethics?
2. How could your training be enhanced, i.e., through future workshops, active networking with other workshop participants, materials, etc.?
3. Have you found the following for maintaining supportive networks over time?
   - Trends, the TRE newsletter
   - POYNTER_TRE, the e-mail distribution list
   - the TRE web page
   - the "alumni reunions" at the annual research ethics
4. Does your department or university support continuing education in the area of teaching research ethics for its faculty? In what ways or why not?
5. What, if any, barriers are there to a broader discussion of and interest in teaching research ethics in your department, or at your university?
6. How might the Poynter Center assist you with your continued professional development in this area?

Cover Letter for Alumni Interview Protocol

Date

Name

Dear Name:

We are nearing completion of preparations for the Poynter Center's 1996 Teaching Research Ethics Workshop. Because this is the final offering of the workshop under the three-year grant, we are taking a slightly different focus for the annual external evaluation; rather than evaluating the immediate post-workshop reactions of this year's participants, we're interested in the long-term impact of the workshop on its alumni/ae, their departments, and their students. The intent is to assess whether the workshop has made a lasting difference in the alumni's orientation to research ethics and what role, if any, the Poynter Center can continue to play in helping you and your institution to improve and increase the teaching of research ethics.

With this as the focus, we would like to enlist the support of you and many of your fellow workshop alumni/ae in the evaluation. With one or two year's worth of experience in applying the ideas and information gained during the workshop, you are in an ideal position to provide us with some very useful data. The three specific goals of the evaluation are to (1) assess whether, and in what ways, the workshop continues to influence your thinking and practice; (2) evaluate the extent to which your colleagues and students have benefited directly and indirectly from the workshop; and (3) determine whether there exists a need for additional professional development for graduate faculty members in the teaching of research ethics, and if so, what role the Poynter Center might play in meeting these needs.

Laura Ettinger of Indiana University will be conducting the external evaluation. She will contact you by telephone in the next few weeks for a brief, 20-minute interview. Laura is happy to schedule a time to talk that is convenient for you. To facilitate the interview, we have enclosed a list of guiding questions. If you could take a moment to review these prior to her call, the interview will certainly be faster and more productive.

Thank you in advance for your assistance with our 1996 Teaching Research Ethics Evaluation. Your feedback is instrumental to our ability to design programs that will have high value for you. Please don't hesitate to give Laura a call at (812) 335-1749 if you would like to schedule an interview.

Sincerely,

Kenneth D. Pimple, PhD
Research Associate

Enclosure: Evaluation questions

Appendix

Results of Poll on *Moral Reasoning in Scientific Research*

Report on Moral Reasoning in Scientific Research

Kenneth D. Pimple, Ph.D.

In preparation for this final report, I sent a survey (see below) to persons who had received one or more copies[1] of *Moral Reasoning in Scientific Research: Cases for Teaching and Assessment*. We distributed approximately 300 surveys and received 97 responses (a response rate of about 30%).

A summary of the responses (Figure 1) shows that 84.4% of the respondents have used or intend to use the booklet to teach research ethics; only 13.5% responded "No" to this item. Of the 13 who selected "No," 10 included an answer to our question, "Why not?" (All of the written responses can be found below.) Five essentially indicated that they do not teach (or do not teach ethics); two ordered it as a resource for others; two indicated that their planned course was not going to be offered; one said, "I use it for clinical research," and one "I don't remember ever receiving the booklet." In other words, no one indicated they were not using the booklet because it was inappropriate or flawed.

I take this as high praise, but the news gets even better. Fully 62.2% of the respondents indicated that they had, or planned to, use the booklet to assess their students' moral reasoning ability. I expected this number to be much lower. It is relatively easy to use case studies to teach, and although the booklet provides excellent resources for assessment, the latter is more difficult. I anticipated that a larger portion of respondents would not feel it was worth the bother to go through with the formal assessment.

Of the 26 persons who indicated that they had not or would not use the booklet to assess moral reasoning ability, 19 gave a reason when asked "Why not?" Of these, the only substantive reason given for not using the booklet to assess moral reasoning is the following:

> We are an undergraduate chemistry faculty teaching scientific ethics to sophomore chemistry majors. The cases (that I've had a chance to peruse) are geared more to graduate level issues and will need some revision for my students to be able to "connect."

Similarly, in response to questions about how the booklet could be changed, what could be added to it, and what other resources would be useful, many respondents said, in effect, we want more! Three specifically asked for more cases, one for multi-part cases, and one for "real" cases; another requested "New cases every 2-3 years as inserts (for a fee, of course!)."

Not surprisingly, several respondents wanted cases in their areas of specialization -- namely environmental ethics, biomedical ethics, vision research, behavioral research, and industry. One wanted cases that "go beyond research ethics," and other wanted a case focusing on informed consent.

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[1] We have sent copies all over the United States and to Austria, Canada, England, Hong Kong, India, Israel, Japan, Kuwait, the Netherlands, New Zealand, Scotland, Spain, and Sweden.

One respondent each asked for the following additions: a glossary, an index, regulatory and policy material (e.g. federal misconduct provisions), a bibliography on teaching ethics. The bibliography is already available (but we need to indicate in the next edition how to find it), and we are considering adding the others. I do not think it likely that we will add regulations and policies because they change too quickly, there are too many of them, and there are many sources for them.

Among our complimentary comments were the following:

Very user friendly, a great resource, fine the way it is.

I found the booklet very useful.

One of the general areas covered in my course is research. Your booklet has been a valuable adjunct for reference when my class reaches that specific area.

Thanks for a very helpful resource!

A good workbook, useful in stimulating discussion after introducing basic moral principles in science.

In some ways the poll was not as helpful as I hoped it would be. We plan to revise the booklet when time and resources allow, and I was eager to get new ideas on how to improve the cases and the approach. Overall, though, the response was gratifying.

Figure 1: Responses to poll (97 responses out of c. 300 sent).			
Have you used, or do you intend to use, *Moral Reasoning* to teach research ethics?	Yes	81	84.4%
	No	13	13.5%
	Not certain	2	2.1%
	TOTAL	96	100%
If yes, at what level did you/will you use it?	Undergraduate	31	30.1%
	Graduate	52	50.4%
	Post-graduate	18	17.5%
	Professional	2	2%
	TOTAL	103	100%
Did you/will you use the cases to assess your students' development in moral reasoning?	Yes	51	62.2%
	No	26	31.7%
	Maybe	5	6.1%
	TOTAL	82	100%

Written comments

Have you used, or do you intend to use, *Moral Reasoning* to teach research ethics? If no, why not?

I use it for clinical research.

I don't remember ever receiving the booklet.

I am still considering possible use in a course. The status of the latter is not yet settled.

I do not teach; I represent academic staff, negotiating terms of employment and actions in discipline hearings.

I order it to place in our Teaching/Learning Center for faculty use.

Don't have and don't anticipate having the direct responsibility. Did pass the materials along to those with this responsibility, but don't know whether they used them. I will note that the framework in the book was quite useful to me in framing an approach to a dispute between colleagues.

I am a researcher; don't teach but interested in moral education.

I was planning to develop an Honors course -- discovered someone already offered a "biomedical ethics" course.

Because I maintain resources for those who teach classes, as opposed to teaching myself.

I don't teach ethics.

Did you/will you use the cases to assess your students' development in moral reasoning? If no, why not?

Informal assessment only -- used as major reading for Grad Colloq Discussion for 4 weeks.

I used them to discuss substantive moral issues, not moral development of students.

See B 1 above.

Limitations on time (this is currently a 10-hour course spread over 5 sessions) and the willingness of other faculty participants. It had nothing to do with the merits of the booklet.

Sort of. I realize there is an educational objective in evaluating the effectiveness of teaching, but at least for the first round, I'm less concerned about assessment.

It proved useful in assessing students' use of moral reasoning.

Not enough time in my course part. I use cases specific to my discipline. I use your book to prepare myself.

Used as examples in requisite areas of a general course in Markets, Ethics, and Law.

I read a couple as a stimulus for discussion.

I teach animal research issues and used the booklet as a source of ideas and a guide for teaching. You do not have animal research in the booklet.

I am only using small parts of the booklet for a broader course on Ethics and Experimentation.

I don't really teach a course. I used it for informal training.

I prefer to use them to develop, not assess, their moral reasoning skills.

Another text was also in use. I used the cases for lecture/discussion preparation.

We are an undergraduate chemistry faculty teaching scientific ethics to sophomore chemistry majors. The cases (that I've had a chance to peruse) are geared more to graduate level issues and will need some revision for my students to be able to "connect."

We have a rather small (6-10) group of graduate students in biomedical sciences who take "Professional Responsibility/Integrity in Science," consisting of 6-8, 2hr/week meetings. I don't have "formal training" in assessing moral reasoning -- I'm a "scientist/researcher-lawyer." I use a variety of ethica/legal materials and readings. See examples attached of typical class activities and how we used one of your cases to develop a final exam question.

Lawyers are incapable of moral reasoning.

I have written my own cases ("The Ethical Chemist") that are more relevant to the audience.

Will use them for teaching and discussion.

How could the booklet be *changed* to make it more useful to you?

"Research ethics" is not an area I teach, therefore little could be done to make it relevant. I found it an interesting resource, however.

Don't know, haven't had a chance to use it yet.

I will have a better idea on recommended changes/additions after next term.

Give me until December '96 for a complete answer. I must obtain the student perspective for the answer to be meaningful!

More cases, formatted for easy class use -- 1 page.

Very user friendly, a great resource, fine the way it is.

I personally like the cases. The assessment tool strikes me as a bit too theory-driven, as worded, to appeal to most scientists, and although we didn't use the tool, I wonder if there would have been more interest if the questions could have been rephrased to arrive at the same points via a more pragmatic route.

Since I haven't used it in practice, yet, it's hard to say. From some case-based teaching we're doing here at the Vet School, I guess I'd favor some multi-part cases that could be handed out in sections. From the couple of ethics workshops/discussions I've attended, part of the challenge is when the scenario changes just about when everyone thinks they have the ethical bull by the horns.

I would welcome expansion of this booklet into areas such as environmental ethics and perhaps a few selected areas in biomedical ethics.

I'll be in a better position to respond to these questions after I have offered the course for the first time (this coming winter term).

I think the booklet is a great resource -- it would meet my needs better if broadened beyond research ethics.

I have not yet used it. Will review as I prepare discussion.

More case studies

Good as is.

Not able to comment yet as I shall be using it this coming term, but I like what I see.

It's fine.

What could be *added* to the booklet to make it more useful to you?

I can't expect more cases specific to vision research.

Don't know, haven't had a chance to use it yet.

Addition of a glossary appropriate for students; and an index.

More integration of regulatory and policy material, e.g. federal misconduct provisions.

More cases. It's relatively easy to come up with a case scenario, but very difficult to craft discussion material.

Add a case study re. research participants and informed consent (or the lack of it).

I found the booklet very useful.

A few real cases with notes on whether they went wrong/where they could have been helped.

Applications to business goals and a research career in industry would help because of the value this can bring to a career and satisfactory employment.

Some more on behavioral research.

Really nothing I can think of.

What other materials or resources for teaching research ethics would you find useful?

Nothing obvious to me. Ethics in research is a small and minor part of my teaching of ethics.

I received this booklet after my course had started, to used only the Jessica Banks Case. Had previously used cases in Research Ethics: Cases and Materials, edited by Penslar.

Don't know, haven't had a chance to use it yet.

I already use a variety of materials, including a chronology of the Baltimore case, and other actual cases students might already be familiar with or heard of. Moral Reasoning is a helpful addition to this approach.

A bibliography on teaching ethics.

*Actually covered this in D. Role playing could be fascinating. Each player gets info sheet with prerequisite knowledge and instructions on what stance to take, what he/she won't compromise on. Not easy to develop. *Brief history of various regulatory fields and how they came into being -- Nuremberg, Helsinki, US cases (Tuskeegee, Willlowbrook, etc.), Belmont, CFRs, for human research, for example. What led to the develpment of the regulations, such as MIS. Our ethicist maintains a fundamental difference between IRB and Radiation Safety, for example.

I have already developed my own.

I am currently looking at the AAAS videos to see if I can incorporate them. Otherwise, I'm open to better ways of reaching the graduate students and post-docs we teach.

Time, time, and more time! And more help. There are a few of us who enjoy this, but it is a real time burner. Most of the faculty are still of the mindset that students learn by example that that should be sufficient.

One of the general areas covered in my course is research. Your booklet has been a valuable adjunct for reference when my class reaches that specific area.

New cases every 2-3 years as inserts (for a fee, of course!).

A "concise" text of some sort.

Overheads (i.e. templates for overheads)

Other comments

I just received the book and have read it quite carefully. I'm not sure I am up-to-speed yet on the analytical approach you developed but I find it very powerful and consistent. This year I plan to use the approach of the book in a less formal way, and perhaps next year use it in full. I have undergraduates entirely, with majors in chemistry, physics, geology, biology, computer science. The case studies in the book needed more breadth of scientific field and work environment for my use. Don't forget -- graduate students will not be in academia forever and need to rehearse potential dilemmas. This is the most helpful case study collection I have found -- because of the instruction in how to analyze and evaluate moral reasoning. Thanks. Please send me a list of your other publications and an order form.

Sorry, I can't help more. The materials look great, but I can't assess them until I use them.

Clearly, the booklet is being used for a purpose you didn't intend. We've found it interesting particularly in the development of case studies for research administration.

I have read the material from the viewpoint of a professional practitioner who is not in the university system and find that is is very useful to give students some tools so they can make informed decisions in their careers based on something other than gut feelings. I try to present similar tools for students and practitioners alike by using my career and experience with the Challenger disaster as the basis. I believe the material is fine as currently presented. Using real world issues/cases, I believe, are key to creating future necessary tools to get professionals to think about consequences before they just bloody act.

Thanks for a very helpful resource!

I used them in a 1 week seminar for our graduate student TA's (16 in all) -- 2 of the 15 meetings were on the "ethics" area.

A good workbook, useful in stimulating discussion after introducing basic moral principles in science.

I am a Liberal Arts dean. I got the book to gain insight to help faculty and staff deal with ethical issues.

I am on the American Sociological Association's Committee on Professional Ethics. We are developing a new Code and Handboook Casebook. This should be most useful to me.

I may use Moral Reasoning the next time I teach this seminar -- it is an interesting and worthwhile approach to the topic.

The materials are very interesting; I plan to use some of them.

We are in the process of collecting more resources.

The important aspect of your book is the explicit process for case analysis. I intend to use or adapt it to the analysis of cases from "The Ethical Chemist." Your cases may be useful when I discuss ethics with audiences outside chemistry -- especially biology. I may have more suggestions as I use the book more. Thanks for your efforts.

I have found this approach quite useful in my research -- will adapt this for studies of media ethics.

The Survey

August 5, 1996

Dear Colleague,

I am writing to persons who have received one or more copies of *Moral Reasoning in Scientific Research: Cases for Teaching and Assessment*.

As you may know, development of the booklet was made possible in part by a grant from the United States Department of Education's Fund for the Improvement of Postsecondary Education (FIPSE).

The term of our grant is drawing to a close, and I am preparing to write the final report to FIPSE, in which I would like to be able to give some indication of how the booklet has been received. I would greatly appreciate it if you would take a few moments to fill out the form below and return it to me at the Poynter Center. (Feel free to add comments on the back or additional sheets.)

Thank you for your help,

Kenneth D. Pimple, Ph.D.
Research Associate

A) What is your name?			
B) Have you used, or do you intend to use, *Moral Reasoning* to teach research ethics? (circle one)			**Yes No**
B.1) If no, why not?			
B.2) If yes, at what level did you/will you use it?	**Under-graduate**	**Graduate**	**Post-graduate**
B.3) Did you/will you use the cases to assess your students' development in moral reasoning?			**Yes No**
B.4) If no, why not?			
C) How could the booklet be *changed* to make it more useful to you?			
D) What could be *added* to the booklet to make it more useful to you?			
E) What other materials or resources for teaching research ethics would you find useful?			